



PROJECT MANUAL  
FOR

JAYCEE PARK  
ADA OBSERVATION PLATFORM

SEPTEMBER 2025

PLANS PREPARED BY:



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4063 Grand Oak Drive, Suite A109  
Lansing, Michigan 48911  
517.887.1100

CONTRACT ADMINISTRATION:



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## **ADVERTISEMENT FOR BIDS**

### **JAYCEE PARK ADA OBSERVATION PLATFORM CITY OF GRAND LEDGE EATON COUNTY, MICHIGAN**

Sealed Proposals for the construction of park improvements located in the City of Grand Ledge will be **received** at the City Clerk's office of the City of Grand Ledge, 310 Greenwood Street, Grand Ledge, Michigan 48837, **until 10:00 a.m., EDT, Thursday, October 2, 2025.**

The work primarily consists of:

The construction of an ADA compliant observation platform and associated site improvements at Jaycee Park, including earthwork, retaining walls, sidewalk, and lawn restoration between E. River Street and the existing pathway along the Grand River.

**This project is being funded by the MDNR Land & Water Conservation Fund. The following state and federal requirements apply to this project:**

- Buy America, Build America Act (BABAA)

The Contractor is required to buy American-made products: The Build America, Buy America Act (BABAA), enacted as part of the Infrastructure Investment and Jobs Act on November 15, 2021, established a domestic content procurement preference for all Federal financial assistance obligated for infrastructure projects after May 14, 2022. The domestic content procurement preference requires that all iron, steel manufactured products, and construction materials used in covered infrastructure projects are produced in the United States (Office of Acquisition Management – Department of Commerce – United States of America).

The contractor and all subcontractors must comply with all requirements of 1976 PA 453 (Elliott-Larsen Civil Rights Act), the 1976 PA 220 (Persons with Disabilities Civil Rights Act), and Executive Directive 2019-09, as amended. In accordance with these laws, all contracts the grantee enters into must contain a covenant by the contractor and any subcontractors not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status, partisan considerations, or a disability or genetic information that is unrelated to the individual's ability to perform the duties of a particular job or position.

Awards cannot be made to a contractor, subcontractor, or employer whose name appears in the Michigan Debarred Vendor List or Federal Debarred Vendor List compiled by the Michigan Department of Technology, Management and Budget pursuant to Sections 261 and 264, MCL 18.261 and 18.264, 1980 PA 278 (State Contracts with Certain Employers Prohibited). Awards cannot be made to a contractor, subcontractor, or supplier who appears on the Unfair Labor Practice Register.

Bids will be awarded to the lowest responsible bidder. This municipality is an equal opportunity employer, businesses owned by women or minorities are strongly encouraged to bid.

Plans and specifications will be **available** on the Michigan Inter-Governmental Trade Network (MITN) and at the City of Grand Ledge website at <https://cityofgrandledge.com/Bids.aspx>.

Inquiries to be directed to the city's consulting engineer at [jwellman@giffelswebster.com](mailto:jwellman@giffelswebster.com).

**An optional pre-bid meeting will be held at Grand Ledge City Hall located at 310 Greenwood Street on Tuesday, September 16, 2025, at 9:00 a.m., EDT.**

**Deadline for bidder inquiries is Thursday, September 25, 2025, at 4:00 p.m., EDT.**

**All addenda will be posted no later than Tuesday, September 30, 2025, at 4:00 p.m., EDT.**

Bids shall be submitted on the forms provided by the Owner and shall be accompanied by a certified check or bid bond, payable to the City of Grand Ledge for an amount equal to five percent (5%) of the total base bid price.

The accepted bidder shall be required to furnish a satisfactory Performance Bond, and Labor and Material Bond in the amount of 100% of the Contract Price, and Maintenance and Guarantee Bond of 50% for two years of the Final Contract Price. The cost of the bonds will be paid by the accepted bidder.

Each bidder agrees to waive any claim it has or may have against the Owner, Engineer, and their respective Employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

The City of Grand Ledge reserves the right to accept or reject any or all bids, in whole or in part, and to waive any informalities, therein when such waiver is in the interest of the City of Grand Ledge, and to award the contract to other than the low bidder.

Bids shall remain firm for a period of ninety (90) calendar days.

# **INSTRUCTION TO BIDDERS**

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# **INSTRUCTIONS TO BIDDERS**

## **1.0 DEFINED TERMS**

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract (EJCDC C-700) (2002 Edition) have the meanings assigned to them in the General Conditions.

Certain additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

- 1.1 Bidder – one who submits a Bid directly to Owner as distinct from a sub-bidder, who submits a bid to a Bidder.
- 1.2 Issuing Office – the office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. For this project the issuing office is Giffels Webster, 1025 E. Maple, Suite 100, Birmingham, MI 48009.
- 1.3 Successful Bidder – the lowest, responsible and responsive Bidder to whom the Owner (on the basis of Owner’s evaluation as hereinafter provided) makes an award.

## **2.0 COPIES OF BIDDING DOCUMENTS**

- 2.1 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from the Issuing Office. The deposit is non-refundable.
- 2.2 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

## **3.0 QUALIFICATIONS OF BIDDERS**

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days after Bid opening upon Owner’s request detailed written evidence such as financial data, previous experience, present commitments and other such data as requested by the Owner. Each Bid must contain evidence of Bidder’s qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

## **4.0 EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- 4.1 It is the responsibility of each Bidder before submitting a Bid:
  - 4.1.1 To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (included “technical data” referred to below);

- 4.1.2** To visit the site to become familiar with and satisfy Bidders as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work;
  - 4.1.3** To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;
  - 4.1.4** To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data; and
  - 4.1.5** To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents.
- 4.2** Reference is made to the Supplementary Conditions for identification of:
- 4.2.1** Those reports of explorations and tests of subsurface conditions at/or contiguous to the site which have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for the purposes of bidding or construction.
  - 4.2.2** Those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction.
- Copies of such reports and drawings will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein, upon which Bidder is entitled to rely, are provided in Paragraph 4.2 of the General Conditions has been identified and established in Paragraph SC-4.2 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.
- 4.3** Information and data shown or indicated in the Contract Document with respect to existing Underground Facilities at or contiguous to the site based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner and Engineer do not assume responsibility for the accuracy or completeness

thereof unless it is expressly provided otherwise in the Supplementary Conditions.

- 4.4** Provisions concerning responsibility for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Paragraph 4.02 and 4.03 of the General Conditions.
- 4.5** Before submitting a Bid, each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incidental thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 4.6** On request, Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 4.7** The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents and the written resolutions thereof by Engineer is acceptable to Bidder, and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.
- 4.8** The Provisions of 4.1 through 4.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radio Material covered by Paragraph 4.06 of the General Conditions.

**5.0 AVAILABILITY OF LANDS FOR WORK, ETC.**

The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor. Easements for

permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

## **6.0 INTERPRETATIONS AND ADDENDA**

**6.1** All questions about the meaning or intent of the Bidding Documents are to be directed to Engineer. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

**6.2** Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

## **7.0 BID SECURITY**

**7.1** Each Bid must be accompanied by Bid security made payable to Owner in an amount of five percent of Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond issued by a surety meeting the requirements of Paragraph 5.01 of the General Conditions.

**7.2** The Bid security of Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within *fifteen* days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the Effective Date of the Agreement or the 90th day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven days after the Bid opening.

NOTE: The bid security for this project will **NOT** be returned.

## **8.0 CONTRACT TIMES**

The number of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the term "Contract Times" is defined in Paragraph 2.03 of the General Conditions) are set forth in the Agreement.

## **9.0 LIQUIDATED DAMAGES AND OTHER DAMAGES**

Programs for liquidated damages and other damages, if any, are set forth in the Agreement.

## **10.0 SUBSTITUTE AND “OR EQUAL” ITEMS**

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or “or equal” items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or “or equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in Paragraphs 6.05 of the General Conditions and may be supplemented in the General Requirements.

## **11.0 BID FORM**

- 11.1** The Bid Form is included with the Bidding Documents; additional copies may be obtained from City.
- 11.2** All blanks on the Bid Form must be completed by printing in ink or by typewriter.
- 11.3** Bids by corporations must be executed in the corporate name by the President or Vice-President (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.
- 11.4** Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- 11.5** All names must be typed or printed in black ink below the signature.
- 11.6** The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
- 11.7** The address and telephone number for communications regarding the Bid must be shown.
- 11.8** Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided in accordance with Paragraph 3 above. State contractor license number, if any, must also be shown.

## **12.0 SUBMISSION OF BIDS**

- 12.1** Bids shall be submitted at the time and place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the Project title and name and address of Bidder and accompanied by the Bid security and other required documents. If the bid is sent through the mail or other delivery system,

the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

- 12.2** Each prospective Bidder is furnished one copy of the Bidding Documents with one separate unbound copy of the Bid Form. The Bidding Documents may be retained by Bidder. The unbound copy of the Bid Form is to be completed and submitted with the Bid security.

**13.0 MODIFICATION AND WITHDRAWAL OF BIDS**

- 13.1** Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 13.2** If, within twenty-four hours after Bids are opened, any bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

**14.0 OPENING OF BIDS**

Bids will be opened and (unless obviously non-responsive) read aloud publicly at the place where Bids are to be submitted. An abstract of the amounts of the base Bids and major alternates will be made available to Bidders after the opening of Bids.

**15.0 BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

All Bids will remain subject to acceptance for 90 days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

**16.0 AWARD OF CONTRACT**

- 16.1** Owner reserves the right to reject any or all Bids, including without limitation the rights to reject any or all non-conforming, non-responsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not reasonable or the Bidder is unqualified or of doubtful financial ability to meet any other pertinent standard or criteria established by Owner. Owner also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder. Discrepancies between the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

- 16.2** In evaluating Bids, Owner will consider the qualifications of Bidders, whether or not the bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 16.3** Owner may consider the qualifications and experience of subcontractors, suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- 16.4** Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.
- 16.5** If the contract is to be awarded, it will be awarded to lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project. Bid alternates will be considered in making this evaluation.
- 16.6** If the contract is to be awarded, Owner will give Successful Bidder a Notice of Award within 90 days after the day of the Bid opening.

**17.0 CONTRACT SECURITY**

Paragraph 5.01 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to Performance, Maintenance and Guarantee and Payment Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Performance, Maintenance and Guarantee Bonds and payment bonds.

**18.0 SIGNING OF AGREEMENT**

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within *fifteen* days thereafter, contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required Bonds. Within 30 days thereafter Owner shall deliver one fully signed counterpart to Contractor. Each counterpart is to be accompanied by a complete set of the Drawings with appropriate identification.

**19.0 RETAINAGE**

Provisions concerning retainage are set forth in the Agreement.

**BID FORM**

**PROJECT IDENTIFICATION:**      **Jaycee Park ADA Observation Platform**

**THIS BID IS SUBMITTED TO:**      **City of Grand Ledge  
310 E. Greenwood Street  
Grand Ledge, MI 48837**

1.      The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

2.      BIDDER accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the day of Bid opening. BIDDER will sign and deliver the required number of counterparts of the Agreement with the Bond and other documents required by the Bidding Requirements within fifteen days after the date of OWNER’S Notice of Award.

3.      In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

(a)      BIDDER has examined and carefully studied the Bidding Documents and the following Addenda receipt of all which is hereby acknowledged: (List Addenda by Addendum Number and Date)

Addendum No. 1 (08/26/2025)

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(b)      BIDDER has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work.

(c)      BIDDER is familiar with and is satisfied to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

(d)      BIDDER has carefully studied all reports of explorations and tests of subsurface conditions at, or contiguous to, the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at, or contiguous to, the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 (A) of the General Conditions. BIDDER accepts the determination set forth in Paragraph 4.02 (A) of the General Conditions. BIDDER accepts the determination set forth in Paragraph SC-4.02 of the Supplementary Conditions of the extent of the “technical data” contained in such reports and drawings upon which BIDDER is

entitled to rely as provided in Paragraph 4.02 of the General Conditions. BIDDER acknowledges that such reports and drawings are not Contract Documents and may not be complete for BIDDER's purposes. BIDDER acknowledges that OWNER and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to Underground Facilities at, or contiguous to, the site. BIDDER has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, exploration, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at, or contiguous to, the site or otherwise which may affect cost progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by BIDDER and safety precautions and programs incident thereto. BIDDER does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price and other terms and conditions of the Contract Documents.

(e) BIDDER is aware of the general nature of Work to be performed by Owner and others at the site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.

(f) BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.

(g) BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that BIDDER has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.

(h) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other BIDDER or over OWNER.

4. BIDDER will provide all labor, materials, and equipment in order to complete the Work in accordance with the Contract Documents for the following price(s):

**Base Bid:**

Construction and staking of all proposed improvements and associated earthwork identified on the plans and specifications prepared by Eng Engineering & Surveying/ Wade-Trim, including amendments to the plans and specifications except for the proposed bid alternates identified below.

**Lump Sum Price \$ \_\_\_\_\_**

**Bid Alternate #1:**

Substitute hollow core precast concrete slabs with solid precast concrete planks sized to match proposed platform dimensions. Price shall include alternate connection details (if needed) and supporting documentation that confirms the selected retaining wall will support the alternate decking.

**Net Change to Base Bid Lump Sum Price \$ \_\_\_\_\_**

**Bid Alternate #2:**

Substitute precast concrete slabs and concrete topping by constructing an 8" thick reinforced concrete deck with integral ledger beam and integral 6" wide x 4" tall curb on three sides to mount the handrail. Price shall include alternate connection details (if needed) and supporting documentation that confirms the selected retaining wall will support the alternate decking.

**Net Change to Base Bid Lump Sum Price \$ \_\_\_\_\_**

**Bid Alternate #3:**

Substitute the construction and staking of a poured-in-place concrete retaining wall by constructing a segmented block retaining wall system (Redi-Rock Retaining Wall Systems or equivalent), including all associated earthwork. Price shall include alternate connection details (if needed) and supporting documentation that confirms the selected retaining wall will support the alternate decking.

**Net Change to Base Bid Lump Sum Price \$ \_\_\_\_\_**

**Bid Alternate #4:**

Construction and staking of an 8-foot-wide concrete sidewalk on 10-foot-wide aggregate base at the grades identified on the plan provided in the bid document, including associated soil erosion control measures, temporary heavy duty construction fencing, earthwork, and lawn restoration. A decision on the inclusion of Bid Alternate #4 will be provided upon receipt of a permit from the Michigan Department of Environment, Great Lakes, and Energy subsequent to contract award.

**Net Change to Base Bid Lump Sum Price \$ \_\_\_\_\_**

**Bid Alternate #5:**

Design and installation of an irrigation system to sprinkle the lawn areas located between the existing sidewalk adjacent to parking and the observation platform and/or retaining walls. The connection shall be made to the existing water source for the adjacent public restroom building.

**Net Change to Base Bid Lump Sum Price \$ \_\_\_\_\_**

**The lowest bid will be determined based on the total sum of the base bid and alternates selected for inclusion by the city.**

5. BIDDER agrees that the Work will be substantially completed and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

BIDDER accepts the provisions of the Agreement as to liquidated damages and other damages in the event of failure to complete the Work within the times specified in the Agreement.

6. The following documents are attached to and made a condition of this Bid:

(a) Required Bid Security in the form of \_\_\_\_\_.

7. Communications concerning this Bid shall be addressed to the address of BIDDER indicated below.

8. References – Contractor shall provide three recent references for work performed similar in nature to the proposed work. Contractors bidding this project shall have a minimum of 5 years of experience with similar projects in urban environments. Bidder may submit on separate form.

<u>Municipality</u>	<u>P.O.C.</u>	<u>Phone#</u>	<u>Type and Amount of Work</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

9. Terms used in this Bid which are defined in the General Conditions or Instructions will have the meanings indicated in the General Conditions or Instructions.

SUBMITTED on \_\_\_\_\_.

State Contractor License No. \_\_\_\_\_

If BIDDER is:

An Individual

By: \_\_\_\_\_ (SEAL)  
(Individual's Name)

doing business as \_\_\_\_\_

Business Address: \_\_\_\_\_  
\_\_\_\_\_

Phone No: \_\_\_\_\_

A Partnership

By: \_\_\_\_\_ (SEAL)  
(First Name)

\_\_\_\_\_ (General Partner)

Business Address: \_\_\_\_\_  
\_\_\_\_\_

Phone No: \_\_\_\_\_

A Corporation

By: \_\_\_\_\_ (SEAL)  
(Corporation Name)

\_\_\_\_\_ (State of Incorporation)

By: \_\_\_\_\_  
(name of person authorized to sign)

\_\_\_\_\_ (Title)

(Corporate Seal)

Attest: \_\_\_\_\_  
(Secretary)

Business Address: \_\_\_\_\_  
\_\_\_\_\_

Phone No: \_\_\_\_\_

Date of Qualification to do business is \_\_\_\_\_



**STANDARD FORM OF AGREEMENT**

This Agreement is by and between the **City of Grand Ledge** (“Owner”) and \_\_\_\_\_ (“Contractor”).

Terms used in this Agreement have the meanings stated in the General Conditions, as modified.

Owner and Contractor hereby agree as follows:

**ARTICLE 1—WORK**

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: **The work consists of, but is not limited to, the construction of retaining walls, steps, sidewalks, an ADA accessible observation platform and railings, including associated earthwork, and law restoration.**

1.02 Subcontractors/Consultants

Pursuant to the requirements of the General Conditions, including Section 7.07, Contractor has advised Owner that it intends to engage the services of the following subcontractor(s) and/or consultant(s) to perform portions of the Work under this Agreement:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

The use or acknowledgment of subcontractors or consultants in no way relieves the Contractor of its obligations under the Contract Documents. The Contractor shall be fully responsible for the acts, omissions, and performance of its subcontractors, consultants, suppliers, and any other entities or individuals performing portions of the Work on behalf of the Contractor, to the same extent as if such acts or omissions were those of the Contractor.

Contractor shall ensure that all subcontractors and consultants comply with all applicable provisions of the Contract Documents. Contractor shall be solely responsible for coordinating the Work of all subcontractors and consultants and shall bear full responsibility for the successful and timely completion of the Work.

The Owner's acknowledgment of the Contractor's intent to use a subcontractor or consultant, and any direct communication or coordination between the Owner (or its representatives) and any subcontractor or consultant, shall not:

- (a) create any contractual relationship between the Owner and such subcontractor or consultant;
- (b) relieve the Contractor of any responsibility under the Contract Documents; or
- (c) modify or diminish the Contractor's obligations or liabilities with respect to the Work.

The Owner retains the right to reject or require the replacement of any subcontractor or consultant pursuant to the Contract Documents, and any interaction between the Owner and such entities shall not be construed as approval beyond what is required for administration of the Contract.

## ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Jaycee Park ADA Observation Platform.**

## ARTICLE 3—ENGINEER

3.01 The Owner has retained Giffels Webster (“Engineer”) to act on behalf of Owner, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.

3.02 The part of the Project that pertains to the Work has been designed by Eng. Engineering & Surveying.

## ARTICLE 4—CONTRACT TIMES

### 4.01 *Time is of the Essence*

A. All time limits for Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract. Contractor schedule as required by the Standard General Conditions.

### 4.03 *Contract Times: Dates*

A. The Work will be substantially complete by May 15, 2026 and final completion by May 29, 2026. Due to the weather/temperature sensitive nature of poured in place rubber installations, if adverse weather conditions (e.g., temperatures below 50°F or sustained precipitation) occur earlier than typical seasonal norms, and the product manufacturer or supplier advises against installation due to risk of compromised performance or warranty invalidation, then one of the following shall apply: (i) Owner may agree to waive any liquidated damages associated with delays directly resulting from weather-related postponement, provided the Contractor notifies the Owner in writing within 48 hours of receiving the supplier's recommendation, or (ii) Owner may instruct the Contractor in writing to proceed with installation despite the supplier's recommendation. In this case, the Owner acknowledges that all associated product warranties shall be voided.

### 4.04 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed within the Contract Times. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. *Substantial Completion:* Contractor shall pay Owner \$1,000.00 for each calendar day that expires after the time (as duly adjusted pursuant to the Contract Documents) specified above for Substantial Completion, until the Work is substantially complete.

2. *Completion of Remaining Work:* After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract Documents) for completion and readiness for final payment, Contractor shall pay Owner \$1,000.00 for each day that expires after such time until the Work is completed and ready for final payment.

Liquidated damages for failing to timely attain Substantial Completion, and final completion are not additive, and will not be imposed concurrently.

4.05 *Payments for Work Completed*

Before commencing the Work, Contractor shall submit a schedule allocating the entire Contract Price to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require ("Schedule of Values"). The Schedule of Values, unless objected to by the Owner, shall be used as a basis for reviewing Contractor's applications for payment. The Owner shall pay to the Contractor, as partial payment under this Agreement, the value as estimated by the Engineer of the work done, based on the Schedule of Values, less the aggregate of the previous payments, less that retainage permitted pursuant to Michigan Public Act 524 of 1980, as amended. Prior to the disbursement of any progress payment or final payment, the Contractor must provide the Owner with waivers of lien and sworn statements as set forth in the General Conditions and as applicable. The Owner may reserve and retain out such partial payment a sum sufficient to meet any undischarged obligations of the Contractor for labor and materials incorporated in the Work, or any other sums as provided for in the Contract Documents.

**ARTICLE 5—CONTRACT PRICE**

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract Documents:

A. The OWNER shall pay the CONTRACTOR \$ \_\_\_\_\_ for completion of the Work in accordance with the Contract Documents.

5.02 *Funding Requirements*

- A. A portion of the funding for this Project is being provided through a grant from the Michigan Department of Natural Resources ("MDNR") Land and Water Conservation Fund (the "Grant"). The Contractor acknowledges and agrees that the Work performed under this Agreement is subject to the terms and conditions imposed by the Grant.
- B. The Contractor shall comply with all applicable requirements, obligations, and conditions of the Grant, including but not limited to reporting requirements, documentation, access to records, audits, nondiscrimination provisions, and any other applicable federal, state, or local requirements that are incorporated into or arise from the Grant agreement between the Owner and MDNR. Upon request by Contractor, a copy of the applicable MDNR Grant documents shall be provided to the Contractor by the Owner or Engineer prior to commencement of Work.
- C. The Contractor shall furnish to the Owner and/or Engineer, in a timely manner and in form acceptable to the Owner and MDNR, all documentation, certifications, or other information necessary to demonstrate compliance with the Grant terms. The Contractor shall retain all records related to the Work for a minimum of three (3) years following final payment or as otherwise required by the Grant, and shall make such records available to the Owner, MDNR, or their authorized representatives upon request.

## ARTICLE 6—PAYMENT PROCEDURES

### 6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

### 6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about 30th day of each month during performance of the Work, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values.
- B. Owner shall be entitled to retain ten percent (10%) of any amounts paid until the Contractor has successfully and finally completed the Work.

### 6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work outlined within the Contract Documents, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

### 6.04 *Consent of Surety*

- A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

## ARTICLE 7—CONTRACT DOCUMENTS

### 7.01 *Contents*

- A. The Contract Documents consist of all of the following:
  - 1. This Agreement
  - 2. *Contractor's Bid*
  - 3. Bonds:
    - a. Performance bond, valued at 100% of the Contract Price (together with power of attorney)
    - b. Labor and material bond, valued at 100% of the Contract Price (together with power of attorney)
    - c. Maintenance and guarantee bond, valued at 50% of the Contract Price (together with power of attorney)
  - 3. Standard General Conditions of the Construction Contract
  - 4. Supplementary Conditions
  - 5. Supplemental Specifications
  - 6. Order of Precedence

7. Progress Clause
8. Errata to the MDOT 2020 Standard Specifications
9. Special Provisions
10. Construction Drawings
11. Supplemental Plans and Details
12. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
  - a. Notice to Proceed.
  - b. Contract Modifications.
  - c. Work Orders.
- B. The Contract Documents listed in Paragraph 7.01.A are incorporated by reference into this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract. In the event of any inconsistency or ambiguity within, between, or among any Contract Document(s), the provision that is most beneficial to the Owner, as determined in the Owner's sole discretion, shall govern.

## **ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS**

### **8.01 Contractor's Representations**

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
  1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
  2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  3. Contractor is familiar with all Laws and Regulations, as defined in the General Conditions, that may affect cost, progress, and performance of the Work.
  4. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs. The Owner has not conducted any subsurface or hazardous materials testing on the site. The Contractor is responsible for conducting its own due diligence regarding site conditions prior to commencing work. If the Contractor encounters unforeseen subsurface or hazardous conditions, Contractor shall immediately notify Owner. In such event, the parties may, but are

not obligated to, negotiate a mutually acceptable resolution before the Contractor proceeds with the affected work. Nothing in this provision shall be construed as a guarantee of an increase in the Contract Price or Contract Time.

5. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
6. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
7. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
8. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
9. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.
10. Contractor attests that they are capable and competent to perform the Work.
11. Contractor to fully comply with the Standard General Conditions.

#### 8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
  1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

#### 8.03 *Standard General Conditions*

- A. A modified version of the General Conditions, EJCDC® C-700, Standard General Conditions for the Construction Contract (2002), published by the Engineers Joint Contract Documents Committee the ("General Conditions"), is incorporated herein by reference as if fully restated. Contractor has received and reviewed same, and Contractor agrees to be bound by all terms therein.

## ARTICLE 9 — INSURANCE

### 9.01 *Insurance*

- A. Contractor, or any of its subcontractors, shall not commence Work under this Contract until they have obtained the insurance required under this Paragraph, and shall keep such insurance in force as provided in Section 6.03 of the General Conditions, as modified.
- B. All coverage shall be with insurance companies acceptable to the City of Grand Ledge within ten (10) days of the Notice of Award. The requirements below should not be interpreted to limit the liability of the Contractor. All deductibles and SIR's are the responsibility of the Contractor.
- C. The Contractor shall procure and maintain the following insurance coverage: Workers' Compensation Insurance including Employers' Liability Coverage, in accordance with all applicable statutes of the State of Michigan as applicable. Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability not less than \$1,000,000 per occurrence and aggregate. Coverage shall include the following extensions: (A) Products and Completed Operations; (B) Independent Contractors Coverage; (C) XCU coverage if the nature of the contract requires XC or U work. Automobile Liability in accordance with all applicable statutes of the State of Michigan, with limits of liability not less than \$1,000,000 per occurrence, combined single limit for Bodily Injury, and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.
- D. Additional Insured: All applicable policies described above shall include an endorsement stating that the following shall be Additional Insureds: The City of Grand Ledge, all elected and appointed officials, all employees and volunteers, all boards, commissions, and/or authorities and board members, including employees and volunteers thereof. It is understood and agreed that by naming the City of Grand Ledge as additional insured, coverage afforded is considered to be primary and any other insurance the City of Grand Ledge may have in effect shall be considered secondary and/or excess.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on \_\_\_\_\_ (which is the Effective Date of the Contract).

Owner:

The City of Grand Ledge

\_\_\_\_\_  
*(typed or printed name of organization)*

By:

\_\_\_\_\_  
*(individual's signature)*

Date:

\_\_\_\_\_  
*(date signed)*

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Attest:

\_\_\_\_\_  
*(individual's signature)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Designated Representative:

Contractor:

**(Insert Selected Contractor)**

\_\_\_\_\_  
*(typed or printed name of organization)*

By:

\_\_\_\_\_  
*(individual's signature)*

Date:

\_\_\_\_\_  
*(date signed)*

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

*(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*

Attest:

\_\_\_\_\_  
*(individual's signature)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Designated  
Representative:

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone:

\_\_\_\_\_

Email:

\_\_\_\_\_

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone:

\_\_\_\_\_

Email:

\_\_\_\_\_

License No.:

\_\_\_\_\_  
*(where applicable)*

State:

\_\_\_\_\_

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the Undersigned

*Contractor Name*  
*Address*  
*City, State and ZIP Code*

as Principal, and \_\_\_\_\_

of \_\_\_\_\_

\_\_\_\_\_

as Sureties, and hereby held and firmly bound unto the

City of Grand Ledge  
310 Greenwood Street  
Grand Ledge, MI 48837

Hereinafter called the Owner, in the full and just sum of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_) to the payment whereof, well and truly to

be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns,

jointly and severally, firmly by these presents.

Signed and Sealed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

The condition of the above obligation is such that if said

*Contractor Name*

shall well and faithfully do and perform the things agreed by City of Grand Ledge to be done and

performed by the annexed contract, according to the terms thereof, then this obligation shall be

void; otherwise, the same shall remain in full force and effect.

It is mutually understood and agreed that in cases where changes are required, either by order of the Engineer, or Owner or by mutual agreement, such change or changes shall not modify, discharge or release this bond.

By:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(Principal)                      (SEAL)

By:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(Surety)                      (SEAL)

Signed, Sealed and Delivered in the presence of:

\_\_\_\_\_  
\_\_\_\_\_

**LABOR AND MATERIAL BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the Undersigned

*Contractor Name*  
*Address*  
*City, State and ZIP Code*

as Principal, and \_\_\_\_\_

of \_\_\_\_\_

\_\_\_\_\_

as Sureties, and hereby held and firmly bound unto the

City of Grand Ledge  
310 Greenwood Street  
Grand Ledge, MI 48837

Hereinafter called the Owner, in the full and just sum of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_) to the payment whereof, well and truly to

be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns,

jointly and severally, firmly by these presents.

Signed with our seals and dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

WHEREAS, the above named Principal has entered into a certain contract with the Owner,

dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, (hereinafter called the Contract) for

**Jaycee Park ADA Observation Platform**

which Contract and the Specifications for said work shall be deemed a part hereof as fully as if

set out herein, and

NOW THEREFORE, the condition of this obligation is such that if payment shall be made by the Principal to any sub-contractor or by him or any sub-contractor as the same may become due and payable of all indebtedness which may arise from him to a subcontractor or party performing labor or furnishing materials or supplies or any sub-contractor to any person, firm or corporation on account of any labor performed or materials or supplies furnished in the performance of said contract, then this obligation shall be void; otherwise, the same be in full force and effect.

AND PROVIDED, that any alterations which may be made in the terms of said contract, or in the work to be done under it, or the giving by the party of the first part of said contract, of any other forbearance on the part of either party to the other, shall not in any way release the Principal and the Surety, or either of them, their heirs, executors, administrators, successors, or assigns from any liability hereunder, notice to the Surety of such alteration, extension, or forbearance being hereby waived.

\_\_\_\_\_  
\_\_\_\_\_  
By: \_\_\_\_\_  
(Principal) (SEAL)

\_\_\_\_\_  
\_\_\_\_\_  
By: \_\_\_\_\_  
(Surety) (SEAL)

Signed, Sealed and Delivered in the presence of:

\_\_\_\_\_  
\_\_\_\_\_

**MAINTENANCE AND GUARANTEE BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the Undersigned

*Contractor Name*  
*Address*  
*City, State and ZIP Code*

as Principal, and \_\_\_\_\_

of \_\_\_\_\_

\_\_\_\_\_

as Sureties, and hereby held and firmly bound unto the

City of Grand Ledge  
310 Greenwood Street  
Grand Ledge, MI 48837

Hereinafter called the Owner, in the full and just sum of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_) good and lawful money of the United

States of America, to be paid to said City of Grand Ledge, its legal representatives and assigns,

for which payment well and truly to be made, we bind ourselves, our heirs, executors,

administrators, successors and assigns, and each and every one of them jointly and severally,

firmly by these presents.

Signed with our seals and dated this . day of \_\_\_\_\_, 20\_\_\_\_.

WHEREAS, the above named Principal has entered into a certain contract with the Owner,

dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, (hereinafter called the Contract) for

**Jaycee Park ADA Observation Platform**

NOW THEREFORE, the condition of this obligation is such, that by and under said contract, the

above named Principal has agreed with the City of Grand Ledge that for a period of 2 year(s)

from the date of payment of Final Estimate, to keep in good order and repair any defect in all work done under said contract either by the Principal or his sub-contractors, or his material suppliers, that may develop during the said period due to improper materials, defective equipment, workmanship, and/or any other work affected in making good such imperfections, shall also be made good all without expense to the Owner, excepting only such part or parts of said work as may have been disturbed without the consent or approval of the Principal after the final acceptance of the work, and that whenever directed to do so by the City of Grand Ledge by notice served in writing, either personally or by mail, on the Principal at:

---

legal representatives, or successors, or on the Surety at

---

THE PRINCIPAL WILL PROCEED at once to make sure repairs as directed by said City of Grand Ledge and in case of failure to do so within one week from the date of services of such notice, or within reasonable time not less than one week, as shall be fixed in said notice, then the said City of Grand Ledge shall have the right to purchase such materials and employ such labor and equipment as may be necessary for the purpose, and to make such repairs, replacements, and/or corrections and charge the expense thereof to, and receive same from said Principal or Surety. If any repair is necessary to be made at once to protect life and property, then and in that case, the said City of Grand Ledge may take immediate steps to repair or barricade such defects without notice to the contractor. In such accounting the said City of Grand Ledge shall not be held to obtain the lowest figures for the doing of the work, or any part thereof, but all sums actually paid therefore shall be charged to the Principal or Surety. In this regard, the judgment of the City of Grand Ledge is final and conclusive. If the said Principal for a period of 2 year(s) from the date of final payment, shall keep said work so constructed under said contract in good order and repair, excepting only such part of parts of

said work which may have been disturbed without the consent or approval of said Principal after the final acceptance of the same, and shall whenever notice is given as hereinbefore specified, at once proceed to make repair as in said notice directed, or shall reimburse said City of Grand Ledge for any expense incurred by making repairs, should the Principal or Surety fail to do as hereinafter specified, and shall fully indemnify, defend and save harmless the said City of Grand Ledge from all suits and actions for damages of every name and description brought or claimed against it for or on account of any injury or damage to person or property received or sustained by any part or parties, by or from any of the acts or omissions or through the negligence of said Principal, servants, agents, or employees, in the prosecution of the work included in said contract, and from any and all claims arising under the Workmen's Compensation Act so called, of the State of Michigan, then the above obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their respective authorized officers this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

By: \_\_\_\_\_  
\_\_\_\_\_  
(Surety) (SEAL)

By: \_\_\_\_\_  
\_\_\_\_\_  
(Surety) (SEAL)

Signed, Sealed and Delivered in the presence of:

\_\_\_\_\_  
\_\_\_\_\_

**CONTRACTOR'S DECLARATION**

I hereby declare that I have not, during the period \_\_\_\_\_  
to \_\_\_\_\_, A.D. 20\_\_\_\_, performed any work, furnished any  
material, sustained any loss, damage or delay for any reason, including soil conditions  
encountered or created, or otherwise done anything for which I shall ask, demand, sue for, or  
claim compensation from \_\_\_\_\_

\_\_\_\_\_

the Owner, or his agents, in addition to the regular items set forth in the contract numbered  
\_\_\_\_\_ and dated \_\_\_\_\_, A.D. 20\_\_\_\_ for

\_\_\_\_\_

executed between myself and the Owner, and in the Contract Modifications for work issued by  
the Owner in writing as provided thereunder, except as I hereby make claim for additional  
compensation and/or extension of time. There is not an itemized statement attached.

Date: \_\_\_\_\_

\_\_\_\_\_  
(CONTRACTOR)

By: \_\_\_\_\_

Title: \_\_\_\_\_

**CONTRACTOR'S AFFIDAVIT**

(STATE OF MICHIGAN     )  
(                                 ) ss  
(COUNTY OF             )

The Undersigned, \_\_\_\_\_  
hereby represents that on \_\_\_\_\_  
he (it) was awarded a contract by \_\_\_\_\_,  
hereinafter called the Owner, to \_\_\_\_\_  
in accordance with the terms and conditions of the Contract Documents; and the Undersigned  
further represents that the subject work has now been accomplished and the said contract has  
now been completed.

The Undersigned hereby warrants and certifies that all of Contractor's indebtedness arising by  
reason of the said contract has been fully paid or satisfactorily secured; and that all claims from  
sub-contractors and others for labor and material used in accomplishing the said project, as well  
as all other claims arising from the performance of the said contract, have been fully paid or  
satisfactorily settled. The Undersigned further agrees that, on behalf of the Contractor, if any  
claim should hereinafter arise, he (it) shall defend, indemnify, and hold harmless Owner and  
assume responsibility for the same immediately upon request to do so by the Owner.

The Undersigned, for a valuable consideration, the receipt of which is hereby acknowledged, does further hereby waive, release and relinquish any and all claims or right of lien which the undersigned now has or may hereafter acquire upon the subject premises for labor and material used in accomplishing said project owned by the Owner.

This affidavit is freely and voluntarily given with full knowledge of the facts, on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(CONTRACTOR)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Subscribed and sworn to before me, a  
Notary Public in and for \_\_\_\_\_ County,  
Michigan, on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Notary Public:  
\_\_\_\_\_

My Commission Expires: \_\_\_\_\_

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE  
*a practice division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

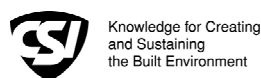
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These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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## GENERAL CONDITIONS

### ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

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#### 1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain

administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times

but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

## 1.02 Terminology

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

### B. Intent of Certain Terms or Adjectives

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

### C. Day

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

### D. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

- a. does not conform to the Contract Documents, or
- b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or
- c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

### *E. Furnish, Install, Perform, Provide*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## ARTICLE 2 - PRELIMINARY MATTERS

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### *2.01 Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

### *2.02 Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

### *2.03 Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement

or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

### *2.04 Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

### *2.05 Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

### *2.06 Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

### *2.07 Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

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3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or

responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work

(unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

### 3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

### 3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

### 3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's

sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

## ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

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### 4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

#### 4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

#### 4.03 *Differing Subsurface or Physical Conditions*

A. *Notice*: If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

#### C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

#### 4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

- a. reviewing and checking all such information and data,
- b. locating all Underground Facilities shown or indicated in the Contract Documents,
- c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and
- d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

#### B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will

promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to

entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 5 - BONDS AND INSURANCE

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### 5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified

in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

#### 5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

#### 5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

#### 5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection

from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

#### 5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

#### 5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any

deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

#### 5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

#### 5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

#### 5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract

Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

#### 5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

## ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

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#### 6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or

received from the superintendent shall be binding on Contractor.

#### 6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

#### 6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

#### 6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

#### 2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

*B. Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

*C. Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

*D. Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

*E. Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract

Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

*F. Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

#### 6.06 Concerning Subcontractors, Suppliers, and Others

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual

or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

#### 6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

#### 6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

#### 6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

## 6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

## 6.11 Use of Site and Other Areas

### A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

*B. Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

*C. Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

*D. Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

## 6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

## 6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Draw-

ings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

#### 6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

#### 6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

#### 6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

#### 6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

##### 1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals , any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

##### C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents

with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

#### *D. Engineer's Review*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

#### *E. Resubmittal Procedures*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

#### *6.18 Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or

disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

#### *6.19 Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

#### *6.20 Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or

arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

#### 6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal

shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

## ARTICLE 7 - OTHER WORK AT THE SITE

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### 7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and

properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

#### 7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

#### 7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

## ARTICLE 8 - OWNER'S RESPONSIBILITIES

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#### 8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

#### 8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

#### 8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

#### 8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

#### 8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

#### 8.06 *Insurance*

A. Owner's responsibilities, if any, in respect of purchasing and maintaining liability and property insurance are set forth in Article 5.

#### 8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

#### 8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

#### 8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

#### 8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

#### 8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

### ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

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#### 9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

#### 9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep

Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

#### 9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

#### 9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

#### 9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show

partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

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10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall

promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

#### 10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

#### 10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

#### 10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

#### 10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK;  
ALLOWANCES; UNIT PRICE WORK

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11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and

Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have

resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

**B. Costs Excluded:** The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

**C. Contractor's Fee:** When all the Work is performed on the basis of cost-plus, Contractor's fee shall

be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

**D. Documentation:** Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

## 11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

### B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

### C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

## 11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

## ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

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### 12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an

allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

### 12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted

by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

### 12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

## ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

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### 13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

### 13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

### 13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to

be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

#### 13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

#### 13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications .

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

#### 13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

#### 13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

### ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

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#### 14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress

payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

#### 14.02 *Progress Payments*

##### A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

##### B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent

inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

#### *C. Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

#### *D. Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

#### *14.03 Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

#### *14.04 Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial

Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

#### 14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

#### 14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals

that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 14.07 *Final Payment*

##### A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

##### B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations

under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

#### C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

#### 14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

#### 14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance

with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

## ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

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### 15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

### 15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety ) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

#### 15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

#### 15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

## ARTICLE 16 - DISPUTE RESOLUTION

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### 16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be

governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

## ARTICLE 17 - MISCELLANEOUS

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### 17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

### 17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

### 17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

### 17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

### 17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

### 17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

## **SUPPLEMENTARY CONDITIONS**

These Supplementary Conditions shall amplify or amend certain provisions in the Standard General Conditions of the Construction Contract (EJCDC C-700) (2002 Edition) and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

SC-2.01 Add the following two paragraphs immediately after Section 2.01.A of the General Conditions which are to read as follows:

The Contractor shall refrain from dating the Performance, Labor & Material, and Maintenance & Guarantee bonds. Furthermore, the effective date of the supporting Power of Attorney shall not be dated so as to coincide with the effective date of the contract.

The Contractor's surety shall provide the City with a letter indicating the following:

*We, as surety, do hereby authorize the City of Grand Ledge and/or the City's engineer, Giffels Webster, to date the Performance, Labor & Material, and Maintenance & Guarantee bonds with supporting Power of Attorney to coincide with the effective date of the contract upon signing and dating by the City of Grand Ledge.*

SC-2.03 Amend the last sentence of 2.03.A. to read as follows: In no event will the Contract Times commence to run later than 90 days after the day of Bid opening or the 30<sup>th</sup> day after the effective date of the agreement, whichever date is earlier.

SC-4.02. In preparation of the drawings and specifications, Engineer or Engineer's Consultants have relied upon the following soil investigation reports prepared by:

See report prepared by SME (part of Technical Specifications provided by Eng)

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The technical data contained in above listed reports upon which the contractor may rely are the soil boring logs and sieve analysis reports. Copies of these reports are included with the Bidding Documents.

These reports and drawings are not part of the Contract Documents but the technical data contained therein upon which Contractor is entitled to rely as provided in GC 4.02.B. and as identified and established above are incorporated therein by reference. Contractor is not entitled to rely upon other information and data utilized by Engineer and Engineer's Consultants in the preparation of Drawings and specifications.

SC-5.01 Add the following two paragraphs immediately after Section 5.01.C. of the General Conditions which are to read as follows:

5.01 (D) Contractor shall provide a Maintenance and Guarantee Bond payable to the Owner in an amount equal to 50 percent of the Final Contract Price for a period of two years.

- 5.01 (E) Contractor shall provide Performance Bond and Labor and Material Bonds on forms provided and in accordance with Article 5.01 of the General Conditions.
- SC-5.04 Contractor's Insurance Requirements: General Conditions Section 5.04 is supplemented and amended as follows:

Prior to commencement of the work, the Contractor shall purchase and maintain during the term of the project such insurance as will protect him, the Owner(s) and the Engineer(s) from claims arising out of the work described in this contract and performed by the Contractor, Subcontractor(s) or Sub-subcontractor(s) consisting of:

- A. **Worker's Compensation** insurance including Employer's Liability to cover employee injuries or disease compensable under the Worker's Compensation Statutes of the states in which work is conducted under this contract; disability benefit laws, if any; or Federal compensation acts such as U.S. Longshoremen or Harbor Worker's, Maritime Employment, or Railroad Compensation Act(s), if applicable. Self-insurance plans approved by the regulatory authorities in the state in which work on this project is performed are acceptable.
- B. A **Comprehensive General Liability** policy to cover bodily injury to persons other than employees and for damage to tangible property, including loss of use thereof, including the following exposure:
1. All premises and operations.
  2. Explosion, collapse and underground damage.
  3. Contractor's Protective coverage for independent contractors or subcontractors employed by him.
  4. Contractual Liability for the obligation assumed in the Indemnification or Hold Harmless agreement found in Section 6.20 of the General Conditions of this contract.
  5. The usual Personal Injury Liability endorsement with no exclusions pertaining to employment.
  6. Products and Completed Operations coverage. This coverage shall extend through the contract guarantee period.
- C. A **Comprehensive Automobile Liability** policy to cover bodily injury and property damage arising out of the ownership, maintenance or use of any motor vehicle, including owned, non-owned and hired vehicles. In light of standard policy provisions concerning (a) loading and unloading and (b) definitions pertaining to motor vehicles licensed for road use vs. unlicensed or self-propelled construction equipment, it is strongly recommended that the Comprehensive General Liability and the Comprehensive Auto Liability be written by the same insurance carrier, though not necessarily in one policy.
- D. The Contractor will purchase for the Owner an **Owner's Protective Liability** policy to protect the Owner, the Engineer, their consultants, agents, employees, and such public corporations in whose jurisdiction the

work is located for their contingent liability for work performed by the Contractor, the Subcontractor(s) or the Sub-subcontractor(s) under this contract.

**E. Umbrella or Excess Liability**

The Owner or its representative may, for certain projects, require limits higher than those stated. The Contractor is granted the option of arranging coverage under a single policy for the full limit required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability policy equal to the total limit(s) requested. Umbrella or Excess policy wording shall be at least as broad as the primary or underlying policy (ies) and shall apply both to the contractor's general liability and to his automobile liability insurance.

**Limits of Liability**

The required limits of liability for insurance coverage requested in the General Conditions, Section 5.04 (B.2) shall be not less than the following:

A.	Workers Compensation	
	Coverage A - Compensation	500,000.00
	Coverage B - Employer's Liability	500,000.00
B.	Comprehensive General Liability	
	Bodily Injury - Each occurrence	1,000,000.00
	Bodily Injury - Aggregate (Completed Operations)	1,000,000.00
	Property Damage - Each Occurrence	500,000.00
	Property Damage - Aggregate or Combined Single Limit	1,000,000.00
C.	Comprehensive Automobile Liability	
	Bodily Injury	1,000,000.00
	Property Damage or Combined Single Limit	500,000.00
		1,000,000.00
D.	Owner's Protective Liability	
	Bodily Injury - Each Occurrence	1,000,000.00
	Property Damage - Each Occurrence	500,000.00
	Property Damage - Aggregate or Combined Single Limit	500,000.00
		1,000,000.00
E.	Umbrella or Excess Liability	1,000,000.00

**Insurance - Other Requirements**

- A. Notice of Cancellation of Intent not to Renew

Policies will be endorsed to provide that at least 30 days written notice shall be given to the Owner and to the Engineer of cancellation or of intent not to renew.

B. Evidence of Coverage

Prior to commencement of the Work, the Contractor shall furnish to the Owner four (4) Certificates of Insurance. The Owner reserves the right to request complete copies of policies it deemed necessary to ascertain details of coverage not provided by the certificates. Such policy copies shall be "Originally Signed Copies" and so designated.

Insurance Required for the Contractor

- A. **Worker's Compensation** including Employer's Liability
- B. **Comprehensive General Liability** including:
  - 1. All premises and operations.
  - 2. Explosion, collapse, and underground damage.
  - 3. Contractor's Protective.
  - 4. Contractual Liability for obligations assumed in the Indemnification-Hold Harmless agreement of this Contract.
  - 5. Personal Injury Liability.
  - 6. Products and Completed Operations.
- C. **Comprehensive Automobile Liability** including owned, non-owned and hired vehicles.
- D. **Umbrella or Excess Liability**

Insurance required for the Contractor shall include the following as additional insured:

- 1. City of Grand Ledge, its employees, its City Council and individual members thereof, agents and/or authorized representatives for the City.
- 2. Giffels-Webster Engineers, Inc. and their consultants, agents, employees, and/or authorized representatives.

Insurance Required for the Owner

- A. **Owners' Protective Liability** which names as insured the Owner(s).

Additional Insured shall include:

Giffels-Webster Engineers, Inc., 1025 E. Maple, Suite 100, Birmingham, MI 48009, and their consultants, agents, and employees and such public corporations in whose jurisdiction the work is located.

## Qualification of Insurers

In order to determine financial strength and reputation of insurance carriers, all companies providing the coverage required shall be licensed or approved by the Insurance Bureau of the State of Michigan and shall have a financial rating not lower than X1 and a policyholder's service rating no lower than B+ as listed in A.M. Best's Key Rating Guide, current edition. Companies with ratings lower than B+:X1 will be acceptable only upon written consent of the Owner.

SC-5.06 Delete Section 5.06 of the General Conditions.

SC-6.06 Add a new sub-Section immediately after Section 6.06.G. of the General Conditions which is to read as follows:

Owner or Engineer may furnish to any such Subcontractor, Supplier or other person or organization, to the extent practicable, information about amounts paid to Contractor in accordance with Contractor's Applications for Payment on account of the particular Subcontractor's Supplier's, other person's or other organization's Work.

SC-14.02 Amend Section 14.02.C.1. of the General Conditions to read as follows: Payment becomes due to Contractor 30 days after presentation of the application for payment to Owner.

## **SUPPLEMENTAL SPECIFICATIONS**

### **A. PAYMENT OF COMPLETED WORK**

1. Any work required but not specifically called for in either the plans or specifications is considered included in the lump sum prices identified in the Bid From. No additional compensation will be authorized unless a change of scope is authorized by the city.
2. The Contractor shall provide a schedule of values for review and approval by the city prior to the start of construction. This framework shall be used when submitting monthly requests for payment.

### **B. TRAFFIC CONTROL**

1. All traffic control measures shall be in full accordance with the current edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD).
2. The Contractor shall be responsible for staking the locations of temporary traffic control in accordance with the MMUTCD or as specified on the plans.
3. Detour signs and arrow boards shall be placed, as required, to direct vehicular and pedestrian traffic around areas of construction in full accordance with the current edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD).
4. If the Contractor does not provide an adequate number of barricades to protect the public, the Owner with or without notice, may provide and/or install barricades and deduct a reasonable fee from the contract for material and service rendered above.
5. The Contractor shall maintain reasonable access to all residences and businesses.
6. The Contractor shall be responsible for relocating and/or replacement of traffic control devices damaged or stolen during construction operation at no cost to the Owner.
7. Contractor shall furnish the Owner and Engineer with the name and telephone number of the barricading company. In case of an emergency, the barricading company will be required to install signs or barricades as directed by the Engineer or Owner.

### **C. CONSTRUCTION**

1. All work performed shall be in full accordance with the plans and specifications.
2. Any work done before 7:00 a.m., or after 7:00 p.m., or any time on Sunday, or legal holidays, will be done by City permit only. Failure to obtain a permit may result in confiscation of equipment, fine, arrest, or any combination of the above.
3. Contractors bidding this project are expected to have visited the site to fully familiarize themselves with the nature of the work involved and the conditions under which the work may be performed.
4. The Contractor is required to confine their activities to the limits of the site. Any damage or disruption to adjacent sites is the responsibility of the Contractor to correct at no

additional cost to the Owner. Damages not satisfactorily corrected in a timely manner may be corrected by the City.

5. If, in the opinion of the Engineer, additional work is required, the Contractor shall complete this additional work at the unit prices identified in the Agreement. No additional compensation will be made for re-mobilization.

D. MISCELLANEOUS

1. See Progress Clause for project milestones.
2. The Contractor shall provide the Engineer written bi-weekly updates to the project schedule.
3. Except where closures are specified, the Contractor shall provide safe, ADA compliant pedestrian walkways at all times.

## **ORDER OF PRECEDENCE**

The specifications in this book shall be taken in the following order of precedence. The number one specification supercedes all specifications below if there is a conflict between the specifications.

1. Supplemental Specifications and Special Provisions
2. Standard General Conditions of the Construction Contract
3. 2020 Standard Specifications for Construction – Michigan Department of Transportation

This order shall hold throughout these specifications and shall be considered as part of the Contract Documents.

## **PROGRESS CLAUSE**

Start work after receiving notice of contract award or on the date designated as the starting date in the Detailed Progress Schedule. In no case shall any work commence prior to receipt of formal notice of contract award by the City of Grand Ledge.

The anticipated dates of activities are as follows:

Sep 9, 2025:	Bids Available
Oct 2, 2025:	Bid Opening
Oct 13, 2025:	City Council Approves Contract
Oct 14, 2025:	Notice of Bid Award Issued
Oct 24, 2025:	Bonds, Insurance, and Contract Books Due to Engineer (3 copies)
Oct 27, 2025:	City Signs Contract
Oct 28, 2025:	Notice-to-Proceed Issued / Pre-Construction Conference
May 15, 2026:	Substantial Completion
May 29, 2026:	Complete Construction

The approved low bidder for the work covered by this proposal will be required to participate in the pre-construction meeting with the owner and/or owner's representatives to work out a detailed progress schedule. The schedule for this meeting is noted above.

The City of Grand Ledge will notify the contractor of the meeting location.

The Progress Schedule shall include, as a minimum, the controlling work items for the completion of the project and the planned dates that these work items will be controlling operations. When specified in the bidding proposal, the date each project is to be substantially completed as well as the final project completion date shall also be included in the project schedule.

Substantial completion shall mean that all work is completed excluding any minor punch list work items.

Complete construction shall mean that all work is completed including the punch list work items.

Failure on the part of the contractor to carry out the provisions of the Progress Clause, as established, may be considered sufficient cause to prevent bidding on future projects in the City of Grand Ledge.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
SUPPLEMENTAL SPECIFICATION  
FOR  
**ERRATA TO THE 2020 STANDARD SPECIFICATIONS**

1 of 13

04-30-25

<b>Page</b>	<b>Subsection</b>	<b>Errata</b>
1-06	101.02	Delete the second abbreviation of the list on this page reading: “IES ..... Illuminating Engineering Society
1-06	101.02	Add the abbreviation to the list on this page reading: “IESNA    Illuminating Engineering Society of North America
1-07	101.02	Change the first abbreviation of the list on this page to read: MMUTCD..... Michigan Manual on Uniform Traffic Control Devices
1-83	108.05.A.2	In the first paragraph of this subsection change the language “MDOT Form 1130” to read “MDOT Form 1130A”.
1-88	108.08.D	Move the last paragraph of this subsection to the left one indent to align with the first paragraph of the subsection and not with the subsection 108.08.D.3.
2-29	205.03.P.1	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, beyond the normal plan fill slope across wetlands or floodplains.”
2-30	205.03.P.2	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, in wetlands or floodplains.”
2-30	205.03.P.3	Delete the second paragraph of this subsection and replace with the following: “Contact the appropriate regulatory agencies to determine whether an area is a regulated wetland or floodplain before disposing of surplus or unsuitable material in areas outside the right-of-way and not shown on the plans as disposal sites.”
2-30	205.03.P.3	Delete the first sentence of the third paragraph of this subsection and replace with the following: “Immediately move to an upland site any surplus or unsuitable material that was disposed of in portions of wetlands or floodplains not shown on the plans as disposal sites, at no additional cost to the Department.”

- 2-30 205.03.P.4 Delete the first sentence of this subsection and replace with the following:  
“The Department will notify the applicable regulatory agencies if the Department becomes aware that the Contractor disposed of surplus or unsuitable material in portions of a wetland or floodplain not shown on the plans.”
- 3-31 308.04.D Change the subsection title from “D. **General.**” to read “A. **General.**”
- 4-5 401.03.A Delete the fourth sentence of the second paragraph on this page of this subsection and replace it with the following:  
“Place the backfill up to 4 inches below the proposed bottom of the pipe and cover with geotextile separator.”
- 4-7 401.03.E Delete the third sentence of the second paragraph of this subsection and replace with the following:  
“Use precast or cast-in-place footings for precast end sections as required.”
- 4-8 401.03.E Delete the first sentence of the fourth paragraph on this page of this subsection and replace with the following:  
“When discharging stormwater directly to waters of the state, permanently label all end sections or other piped points of stormwater entry with “MDOT” or the local agency’s name in a conspicuous location that will remain visible after construction.”
- 4-11 401.04 Change the eighth pay item from the bottom of the list on this page to read as follows:  
Culv End Sect \_\_ inch, Grate .....Each
- 4-11 401.04.A.3 Delete this subsection in its entirety and replace it with the following:  
“3. Providing and placing culvert bedding, culvert, and geotextile blanket;”
- 4-12 401.04.C.4 Change this subsection to read:  
“The Engineer will measure Culv End Sect \_\_ inch, Grate by each as shown on the plans for the size of grate required.”
- 4-16 402.03.A Delete the fourth sentence of the third paragraph on this page of this subsection and replace it with the following:  
“Place the backfill up to 4 inches below the proposed bottom of the pipe and cover with geotextile separator.”
- 4-21 402.03 Add a new subsection to the end of subsection 402.03 on this page reading as follows:  
“K. **Outfall Labeling.** Label all stormwater outfalls directly discharging to waters of the state in accordance with subsection 401.03.E.

- 4-21 402.04.A Delete the last sentence of this subsection and replace it with the following:  
 “The unit price for **Sewer and Sewer, Reinf Conc, Ellip** includes the cost of excavation, bedding, backfill, geotextile blanket, and conducting mandrel testing if required.”
- 4-33 404.03.D.1 Delete this subsection in its entirety and replace it with the following:  
 “1. **Foundation, Bank, Subbase and Subgrade Underdrains.**  
 Backfill using granular material Class IIAA.”
- 4-39 406.02 Change the third line in the list of materials to read:  
 Coarse Aggregate 6A, 6AA, 17A.....902
- 4-41 406.03.A.3 Delete the third paragraph of this subsection and replace with the following:  
 “Design joints between adjacent box culvert sections in accordance with Section 9 of ASTM C1577 and to accommodate the joint sealing material in accordance with section 914 as applicable.”
- 4-50 406.03.G.3 Change the first sentence of the first paragraph to read:  
 “Unless otherwise shown on the plans, construct culvert bedding for box culverts by placing a 9-inch-thick layer of 46G aggregate, covered with a 3-inch-thick layer of 34G, 34R aggregate, or approved equal.”
- 4-51 406.03.G.3 Add the following sentence to the end of the second paragraph of this subsection:  
 “The cold applied joint sealer must completely cover the external rubber gasket with the placement limits matching the width of the geotextile blanket.”
- 4-52 406.04.B In the second paragraph of this subsection delete the first sentence and replace with the following:  
 “The Department will pay separately for cast-in-place concrete, other than for culvert segments, headwalls, wingwalls, aprons, and curtain walls.”
- 5-26 502.02 Delete the first sentence of the subsection and the listed materials in this subsection.
- 5-26 502.02.A Add the following to the end of the first sentence in this subsection:  
 “(914.04A)”
- 5-26 502.02.B Add the following to the end of the first sentence in this subsection:  
 “(502.02B)”
- 5-35 503.04 Change the first paragraph to read:  
 “The unit price for **Paver-Placed Surface Seal**, of the type required, includes the cost of preparing the surface, and placing a membrane and paver placed surface seal course for full-width coverage,

except that the Department will pay separately for removing pavement markings in accordance with subsection 812.04”

- 5-46 504.04.A Change the first paragraph to read:  
“A. **General**. The unit prices for **Micro-Surface**, regardless of the type required, include cleaning existing pavement, applying a bond coat, stationing, corrective action, and traffic control to complete corrective action.”
- 6-20 602.04 Delete the fifteenth pay item of the list on this page reading:  
“Shoulder, Reinf Conc..... Square Yard
- 6-20 602.04 Change the sixteenth thru the eighteenth pay items on this page to read as follows:  
Shld, Nonreinf Conc..... Square Yard  
Shld, Nonreinf Conc, High Performance ..... Square Yard  
Shld, Freeway..... Square Yard
- 6-21 602.04.B.1 Delete this subsection and replace with the following:  
“**Shld, Nonreinf Conc**; and **Shld, Nonreinf Conc, High Performance**. The Engineer will measure, and the Department will pay for, **Shld, Nonreinf Conc**; and **Shld, Nonreinf Conc, High Performance** by area, based on plan quantities in accordance with subsection 109.01.”
- 6-21 602.04.B.2 Delete this subsection and replace with the following:  
“**Shld, Freeway**. The Engineer will measure, and the Department will pay for, **Shld, Freeway** based on plan quantities in accordance with subsection 109.01. If the Contractor uses concrete for the shoulder, the unit price for **Shld, Freeway** includes the cost of the transverse joints in the shoulder and the external longitudinal pavement joints.”
- 6-23 602.04.F Add the following sentence to the end of the first paragraph of this subsection:  
Temporary concrete pavement, pavement within 4 feet of an obstruction, pavement areas less than 300 square yards, or pavement less than 3 feet wide will not be cored.
- 6-23 602.04.F Delete the following language from this subsection on this page:  
“The Engineer will not core the following:  
  
1. Temporary concrete pavement;  
  
2. Pavement within 4 feet of an obstruction;  
  
3. Pavement areas less than 300 square yards; or  
  
4. Pavement less than 3 feet wide.”
- 6-24 602.04 Rename the following subsections as follows:

		<ol style="list-style-type: none"> <li>“1. Initial Core.</li> <li>2. Additional Cores.</li> <li>3. Price Adjustment for Thickness.</li> <li>4. Price Adjustments for Steel Locations within the Pavement.</li> <li>5. Remove and Replace.”</li> </ol>
6-24	602.04	
6-24	602.04	
6-25	602.04	
6-26	602.04	
6-29	603.02	<p>Change the first sentence in the last paragraph in this subsection to read:  “Provide coarse aggregate with no greater than 2.5% absorption in accordance with AASHTO T85.”</p>
7-11	705.02	<p>Change the second sentence in the last paragraph in this subsection to read:  “Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete.”</p>
7-29	706.02	<p>Change the first sentence in the seventh paragraph in this subsection to read:  “Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete.”</p>
7-107	709.04	<p>Change the Pay Unit on the second pay item from the top of the list on this page to read as follows:  Thousand Board Foot</p>
7-115	711.02	<p>Change the first sentence in the last paragraph in this subsection to read:  “Provide natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85.”</p>
7-120	712.02	<p>Change the first sentence in the sixth paragraph in this subsection to read:  “Provide concrete containing natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85.”</p>
7-185	718.02	<p>Change the first sentence in the last paragraph in this subsection to read:  “Provide concrete with natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85.”</p>
8-12	804.03.B.2	<p>Change the first sentence in this subsection to read:  “Cast in place light standard and sign support foundations using fixed forms in accordance with the <i>MDOT Standard Plan R-50 series</i>.”</p>
8-27		<p>Change the last pay item at the bottom of this page to read as follows:  Guardrail Anch, Bridge, Det __, Curved.....Each</p>
8-44	810.03.J.9	<p>Add a period to the end of the third sentence in this subsection.</p>

- 8-53 810.03.V Add a period to the end of the second sentence of the first paragraph of this subsection.
- 8-53 810.04 Change the fourth pay item from the top of the list on this page to read as follows:  
Post, Steel, \_\_ pound.....Foot
- 8-53 810.04 Change the last four pay items at the bottom of this page to read as follows:  
Fdn, Truss Sign Structure Type \_\_, \_\_ inch dia, Cased.....Foot  
Fdn, Truss Sign Structure Type \_\_, \_\_ inch dia, Uncased.....Foot  
Fdn, Cantilever Sign Structure Type \_\_, \_\_ inch dia, Cased ....Foot  
Fdn, Cantilever Sign Structure Type \_\_, \_\_ inch dia, Uncased.Foot
- 8-55 810.04.B.1 Delete the second paragraph of this subsection and replace with the following:  
“The unit prices for **Fdn, Truss Sign Structure Type \_\_, \_\_ inch dia, Cased** and **Fdn, Cantilever Sign Structure Type \_\_, \_\_ inch dia, Cased** include the cost of concrete, slurry, steel reinforcement, permanent casings, anchor bolts, excavation, and disposal of excavated material.”
- 8-55 810.04.B.2 Delete this subsection and replace with the following:  
“**Foundation, Truss Sign Structure, Uncased and Foundation, Cantilever Sign Structure, Uncased.** The unit prices for **Fdn, Truss Sign Structure Type \_\_, \_\_ inch dia, Uncased** and **Fdn, Cantilever Sign Structure Type \_\_, \_\_ inch dia, Uncased** include the cost of concrete, slurry, steel reinforcement, temporary casings, anchor bolts, excavation, and disposal of excavated material.”
- 8-57 810.04.I Delete the first paragraph of this subsection and replace with the following:  
“The unit price for **Sign, Rem** of the type required includes the cost of removing signs from supports and stacking by shape and size.”
- 8-57 810.04.I Delete the second paragraph of this subsection and replace with the following:  
“The unit prices for **Ground Mtd Sign Supports, Rem; Cantilever, Rem** and **Truss, Rem** include the cost of removing ground mounted sign supports, cantilever or truss supports.”
- 8-57 810.04.L Change this subsection to read:  
“The unit price for Sign, Erect, Salv of the type required includes erecting the salvaged sign on a new sign support or existing sign support, as shown on the plans, and attaching devices, and hardware, including brackets.”
- 8-93 812.03.D.14 Add the following paragraph after the second paragraph in this subsection:  
“If the temporary rumble strips lose their adhesion to the pavement during the life of the project, replace or re-adhere them, as directed

by the Engineer. Upon completion of the project, or as directed by the Engineer, entirely remove the temporary rumble strips using a method that does not permanently damage the pavement surface.”

- 8-95 812.03.D.14 Delete the third, fourth, fifth and sixth paragraphs of this subsection.
- 8-110 812.04 Change the fifth and sixth pay item from the top of the list on this page to read as follows:  
Sign, Type B, Temp, Prismatic, Spec, Furn ..... Square Foot  
Sign, Type B, Temp, Prismatic, Spec, Oper ..... Square Foot
- 8-141 815.04.C.1.b Delete this subsection in its entirety.
- 8-141 815.04.C.1.c Rename and change this subsection as follows:  
“b. Removal and disposal of unacceptable plants including the root ball.
- 8-141 815.04.C.1.d Delete this subsection in its entirety.
- 8-142 815.04.C.2.d Change this subsection to read:  
"During the first watering of the second growing season, remove and dispose of the guying material, identification tags, and inspection tags."
- 8-144 816.03.A Change the third sentence in this subsection to read:  
“Use topsoil from within the project limits; or from off-site sources meeting the requirements in subsection 917.06.”
- 8-167 818.04 Add the pay item to the bottom of the list on this page as follows:  
Power Company (Estimated Cost to Contractor)..... Dollar
- 8-170 818.04.G Delete this subsection in its entirety.
- 8-170 818.04 Rename the following subsections as follows:  
“G. **Handholes (Hh).**  
H. **Service Disconnect.**  
I. **Metered Service.**  
J. **Unmetered Service.**  
K. **Wood Pole.**  
L. **Concrete Pole, Fit Up.**  
M. **Steel Pole, Fit Up.**  
N. **Bracket Arm.**”
- 8-171 818.04.J Delete the second paragraph of this subsection and replace with the following:  
“The pay item, **Power Company (Estimated Cost to Contractor)**, establishes a budgeted amount in the contract to cover the cost of reimbursing the Contractor for payments made to the power company for providing electrical power at the locations shown on the plans. The Department will estimate the reimbursement costs to the Contractor and establish a budgeted amount as shown on

the plans. The Department will pay the Contractor for power company invoices paid, as submitted to the Engineer.”

- 8-176 819.03.B.5.b In the second paragraph of this subsection delete the first sentence and replace with the following:  
“Tighten bolts connecting the pole to the frangible base to a snug tight condition in accordance with subsection 707.03.E.6.c.”
- 8-185 820.01.B Add a period to the end of the first sentence of this subsection.
- 8-187 820.02 Change the first line in the list of materials on this page to read:  
Conduit Material.....918
- 8-196 820.03.O In the fourth paragraph of this subsection delete the last sentence and replace with the following:  
“Use smooth wall, Schedule 80, rigid PVC conduit, or coilable, Schedule 80 PE conduit in accordance with section 818.”
- 8-199 820.04 Add the pay item to the list on this page:  
TS, (number) Way (type) Mtd (LED) Optic
- 8-200 820.04 Change the second pay item from the top of the list on this page to read as follows:  
TS Head, Temp .....Each
- 8-200 820.04 Change the eleventh pay item from the top of the list on this page to read as follows:  
TS, Lens, Pedestrian Sym (LED) .....Each
- 8-200 820.04 Delete the following pay items from the list:  
Strain Pole, Steel, 6 bolt, \_\_ foot.....Each  
Mast Arm Pole, Cat.....Each  
Mast Arm, \_\_Foot, Cat.....Each
- 8-200 820.04 Change the eleventh pay item from the bottom of the list on this page to read as follows:  
Mast Arm, Rem.....Each
- 8-200 820.04 Delete the following pay item from the list:  
Pushbutton, Pedestal, Alum.....Each
- 8-201 820.04 Delete the following pay item from the list:  
Pushbutton, Pedestal, Rem .....Each
- 8-201 820.04 Delete the following pay item from the list:  
Power Co. (Est Cost to Contractor)..... Dollar
- 8-202 820.04 Add the following pay item to the list:  
Bracket, Truss, Salv.....Each
- 8-204 820.04.C Delete the last paragraph of this subsection in its entirety.

- 8-204 820.04.D Delete the first paragraph of this subsection in its entirety.
- 8-205 820.04.E Delete the sixth paragraph of this subsection in its entirety.
- 8-205 820.04.E Delete the seventh paragraph of this subsection in its entirety.
- 8-205 820.04.E Change the eighth paragraph to read:  
 “The unit price for **Pedestal, Pushbutton, Alum** includes the cost of installing the aluminum pushbutton pedestal assembly, installing hardware, fittings, grounding, and ground rod.”
- 8-205 820.04.E Change the ninth paragraph to read:  
 “The unit price for **Pedestal, Pushbutton, Rem** includes the cost of removing the pedestal assembly and hardware.”
- 9-5 902.02 Delete the first line under the Material list and relace with the following:  
 “Wire Cloth and Sieves ..... ASTM E11”
- 9-9 902.03.C.1.b Delete the first sentence in this subsection and replace with the following:  
 “The physical requirements for the coarse aggregate are as specified in Table 902-2 and as follows:”
- 9-14 Table 902-1 In the row that includes the information on the 34G material, under the column titled Item of Work by Section Number (Sequential) delete the reference to the section 404.
- 9-15 Table 902-2 Add the superscript (n) in the first row in the Dense-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).
- 9-16 Table 902-2 Add the superscript (n) in the first row in the Open-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).
- 9-16 Table 902-2 Delete the superscript footnote in the first through fourth rows under the header row that reads “(m)” in the column Loss, % max, LA Abrasion (MTM 102).
- 9-16 Table 902-2 Add the following row after the third row in the Open-graded aggregates section reading:
- |     |    |    |    |    |    |
|-----|----|----|----|----|----|
| 46R | -- | 45 | -- | -- | -- |
|-----|----|----|----|----|----|
- 9-16 Table 902-2 Add the superscript footnote in the header row that reads “(m)” in the column Loss, % max, LA Abrasion (MTM 102).
- 9-15 Table 902-2 Delete the footnote (d) in one location in the table.

9-17	Table 902-2	Delete the footnote (d) in one location in the table.
9-17	Table 902-2	Add the following footnote below the existing footnotes in this table. “(n) For recycled crushed concrete, if the source concrete uses primarily rounded river gravel aggregates, the minimum crushed particle content can be reduced to 90%.”
9-21	Table 902-6	Delete the footnote (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (c) to read (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (d) to read (c) in two locations in the table.
9-25	903.04	Delete the second sentence of the second paragraph of this subsection.
9-70	909.07.A	Delete the second sentence of this subsection.
9-70	909.05.D	Change the first sentence in this subsection to read: “Provide steel pipe for jacking in place meeting the requirements of ASTM A53/A53M for Type E or Type S, Grade B, or ASTM A139/A139M for Grade B.”
9-71	909.08.A	Change the first sentence in this subsection to read: “Provide bridge deck downspouts of PE pipe meeting the requirements of ASTM F714, PE 4710, DR 26 or Schedule 80 PVC.”
9-94	Table 910-01	Change the value in the fifth row under the header row in the Permittivity (min) (per second) column from 0.5 to read: “0.05”
9-94	Table 910-01	Change the value in the seventh row under the header row in the Permittivity (min.) (per second) column from 0.5 to read: “0.05”
9-95	Table 910-2	Change the second row under the Ultimate strength section to read: “CMD <sup>(c)</sup> 1950 lb/ft”
9-119	913.06	Change this subsection to read: Circular precast concrete units with circular reinforcement for adjusting rings, tops, risers, and sump bases for manholes, catch basins, and inlets must meet the requirements of AASHTO M199 and the following additions and exceptions:
9-133	917.03	Rename the four subsections following the first paragraph on this page as follows: D. Deciduous Shade Trees. E. Small Trees, Ornamentals, and Shrubs. F. Evergreen Trees. G. Vines, Ground Cover, and Herbaceous Ornamental Plants.

- 9-149 918.08 In the first paragraph of this subsection delete the second sentence and replace with the following:  
“Provide light standards designed in accordance with AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.”
- 9-150 918.10 In the first paragraph of this subsection delete the first sentence and replace with the following:  
“Provide tower lighting units designed in accordance with AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.”
- 9-164 919.04.B In the first paragraph of this subsection delete the first sentence and replace with the following:  
“Provide square tubular steel sign supports meeting the chemical, mechanical, and geometric properties of material used in the crash tests referenced in AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.”
- 9-170 920.02.C Change the reference to Table 920-2 to read Table 920-3 in two locations.
- 9-218 922.06 Add the following subsection after subsection 922.06.C:  
“D. **Temporary Rumble Strips (Orange)**. The completed temporary rumble strip consists of one layer of the 0.25- by 4-inch material.
- Apply the primer to the surface of the pavement only if recommended by the manufacturer. Place the pre-adhesive surface of the rumble strip on the primer or directly on the pavement surface, as recommended by the manufacturer. Seat the rumble strips with a minimum of three passes of a 200-pound weighted roller.
- Provide temporary rumble strips that are composed of a polymer with pre-applied adhesive, orange, and a tensile strength of 250 psi. Provide primer in accordance with the manufacturer’s recommendations.”
- 9-222 922.10.A.3 Delete this subsection and replace with the following:  
“Conform to the wind load requirements specified by AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals with all equipment mounted without the need for additional ballast;”
- 10-5 1001.03.A.4.m Delete this subsection and replace it with the following:  
“m. Contractor’s signature or initials when water is added on-site.”
- 10-15 1002.03.A.9 Delete this subsection and replace it with the following:  
“9. AASHTO T177 - Standard Method of Test for Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)”

- 10-23 1003.03.B Delete the last sentence of this subsection and replace with the following:  
“Aggregate sampling for concrete will be performed by an MCAT-certified Aggregate Technician Level II.”
- 10-42 Table 1006-01 Change footnote (a) to read:  
“(a) Ensure that the coarse aggregate’s absorption does not exceed 2.5% in accordance with AASHTO T85.”
- 10-43 Table 1006-02 Replace Table 1006-02 with the Table 1006-02 below.
- 1A - 20A Pay Item Index Replace the Pay Item Index in its entirety.

**Table 1006-2:  
Overlay Mixtures**

Mixture Type	Aggregate	Slump (inch)	Air Content	Admixture Required	Mixture Proportions lb/yd <sup>3</sup> , dry weight					
					Cement <sup>(a)</sup>	Dry Densified Silica Fume <sup>(b)</sup>	Net Mix Water	Fine Agg	Coarse Agg	Latex Admixture
SFMC	2NS and 26A <sup>(c)</sup>	4-6	6.5 ±1.5%	(d),(e),(f)	618	40	273 <sup>(g)</sup>	1273	1601	—
LMC	2NS and 26A <sup>(c)</sup>	<sup>(h)</sup>	4.5 ±1.5%	—	658	—	<sup>(h)</sup>	1490 <sup>(i),(j)</sup>	1300 <sup>(i),(j)</sup>	206

(a) Use only Type I or Type II Portland cement.

(b) For SFMC mixtures, the Contractor may use a blended silica fume Portland cement. However, if the silica fume content of the blended material is greater than 8% of the total cementitious material, submit to the Engineer modified mix proportions with Type I Portland cement added to the blended material to achieve the equivalent individual cementitious material mixture proportions.

(c) Provide coarse aggregate, 95% minimum crushed materials in accordance with Michigan Test Method (MTM) 117, with an absorption no greater than 2.5%, in accordance with AASHTO T85.

(d) Water-reducing high-range admixture or water-reducing high-range and retarding admixture.

(e) Virgin polypropylene collated fibers at 2 lb/yd<sup>3</sup>.

(f) Air-entraining admixture.

(g) Provide a net water to cementitious material ratio of 0.41 (cementitious material includes cement and silica fume).

(h) Add water in addition to water in the latex admixture to control slump to within 3 to 5 inches. Measure slump from 4 to 5 minutes after discharge from the mixer. During the waiting period, deposit concrete on the deck and do not disturb. If placing mixtures on sections within superelevated curves, the Contractor may need to use the lower allowable range of the slump requirement, as determined by the Engineer. Do not exceed water-cement ratio, by weight, of 0.30 including water contained in the latex emulsion.

(i) Aggregate proportions are approximate; due to gradation changes, the Contractor may increase proportions by no greater than 5% by weight of total aggregate if reducing coarse aggregate by an equivalent volume.

(j) Aggregate weights specified in the table are based on a dry bulk specific gravity of 2.65 for gravel and stone. Adjust the weights if the specific gravity of the materials used varies by more than 0.02 from the specified values.

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CITY OF GRAND LEDGE

NOTICE TO BIDDERS

**BI-WEEKLY PROGRESS MEETING**

GW: JRW

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03/31/23

Bidders are advised that after the commencement of construction activities, the Contractor will be required to attend a bi-weekly progress meeting with the Engineer and any other interested parties. Dates will be selected at the beginning of the project and the meeting will be held at the office of the Engineer, or as otherwise arranged. The Contractor's project representative along with representatives from all critical subcontractors, as requested by the Engineer, shall be present at the meeting to discuss the status of the project and provide a detailed schedule update of the work for the following two (2) weeks and coordinate their activities, as needed.

CITY OF GRAND LEDGE

NOTICE TO BIDDERS

**UTILITY COORDINATION**

GW: JRW

1 of 2

03/27/23  
REV. 08/25/25

The Contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the MDOT 2020 Standard Specifications for Construction. In addition, for the protection of underground utilities, the Contractor shall follow the requirements in Section 107.12 of the 2020 MDOT Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 109.05.E of the 2020 MDOT Standard Specifications for Construction.

For protection of underground utilities, and in conformance with Public Act 174 of 2013, the Contractor shall contact the "MISS DIG" system at (800)482-7171 (or 811) a minimum of three (3) full working days, excluding Saturdays, Sundays and holidays, prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the Contractor of the responsibility to notify utility owners who may not be part of the "MISS DIG" alert system.

The following public utilities have facilities located within the public right-of-way:

**City of Grand Ledge Public Works**

310 Greenwood Street  
Grand Ledge, MI 48837  
Contact: Kurt Ristow  
T: 517.627.2149  
E: [kristow@cityofgrandledge.com](mailto:kristow@cityofgrandledge.com)

**City of Grand Ledge Public Service**

310 Greenwood Street  
Grand Ledge, MI 48837  
Contact: Dave Gutchess  
T: 517.627.2144  
E: [dgutchess@cityofgrandledge.com](mailto:dgutchess@cityofgrandledge.com)

**Consumers Energy (Electric)**

530 W. Willow Street  
Lansing, MI 48906  
Contact: Jacob M. Chalut  
T: 517.374.2329  
E: [jacob.chalut@cmsenergy.com](mailto:jacob.chalut@cmsenergy.com)

**Consumers Energy (Gas)**

530 W. Willow Street  
Lansing, MI 48906  
Contact: Adam Bertram  
T: 517.614.8570  
E: [adam.bertram@cmsenergy.com](mailto:adam.bertram@cmsenergy.com)

**Frontier Communications**

1943 W. M-21  
Owosso, MI 48867  
Contact: Harold Roth  
T: 989.627.9579

**Zayo Group**

240 E. South Street  
Lansing, MI 48910  
Contact: Waylon Higgins  
E: [Waylon.higgins@zayo.com](mailto:Waylon.higgins@zayo.com)

**Rogers Telecom, Inc**

8200 Dixie Road, East Building  
Brampton, ON L6T0C1  
Contact: Julie Paulson  
T (Business): 920.459.2600  
T (After Hours): 920.889.9832  
E: [jpaulson@gabes.com](mailto:jpaulson@gabes.com)

**Wide Open West**

380 Wright Industrial Parkway  
Potterville, MI 48876  
Contact: Cody Briskie  
T: 517.202.7441  
E: [cody.briskie@wowinc.com](mailto:cody.briskie@wowinc.com)

CITY OF GRAND LEDGE

NOTICE TO BIDDERS

**UTILITY COORDINATION**

GW: JRW

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03/27/23  
REV. 08/25/25

**Comcast**

3544 Patterson Ave SE

Kentwood, MI 49512

Contact: Scott Wilson

E: [Scott.Wilson@comcast.com](mailto:Scott.Wilson@comcast.com)

E: [cody.briskie@wowinc.com](mailto:cody.briskie@wowinc.com)

Existing franchise utility service facilities, which are located within grading or structural limits, will be moved or adjusted by the respective owners to locations or elevations designated by the Engineer or will be removed entirely from the right-of-way. Owners of public utilities will not be required by the City to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are extraordinarily dangerous to the Contractor's operations. The Contractor shall make every effort to coordinate the work with other utility agencies, forces, developers or contractors working within the Construction Influence Area of this project for the following improvements:

1. **City of Grand Ledge Department of Public Works and Services:** Maintenance of parks, sanitary sewers, storm drains, water mains, streetlighting, and signage.
2. **Consumers Energy:** Maintenance of electrical and gas main facilities and appurtenances.
3. **Frontier Communications:** Maintenance of underground fiber optic cables.
4. **Rogers Telecom, Inc:** Maintenance of overhead telecommunication cables.
5. **Wide Open West:** Maintenance of overhead telecommunication cables.
6. **Zayo Group:** Maintenance of underground fiber optic cables.
7. **Comcast:** Maintenance of overhead telecommunication cables.

CITY OF GRAND LEDGE

NOTICE TO BIDDERS

**PAY REQUESTS AND CONTRACT MODIFICATIONS**

GW: JRW

1 of 1

08/25/25

**Pay Requests**

Pay applications will be prepared by the Contractor for work performed on a monthly basis. The pay application shall be submitted to the Engineer for review and if acceptable, signed by the Engineer and recommended to the City for payment. The month shall be defined as the first day of each month to the last day of each month, unless otherwise determined by the Engineer. The pay application shall be consistent with the schedule of values approved by the City.

**Contract Modifications**

The Contractor shall submit all requests for compensation for extra work in writing to the Engineer.

Contract Modifications will be required for any work performed that is not covered by the contract documents and shall show justification of the requested payment and the additional contract time required.

The Contractor shall not proceed with the work requiring a Contract Modification prior to approval by the Engineer. If the Contractor proceeds with the work requiring a Contract Modification, it shall be at the Contractor's discretion.

CITY OF GRAND LEDGE

NOTICE TO BIDDERS

**JOB SITE SAFETY**

GW: JRW

1 of 1

03/31/23

Neither the professional activities of the Engineer, nor the presence of the Engineer or its employees and consultants shall relieve the Contractor and any other entity of their obligations, duties and responsibilities including, but not limited to, construction means, methods, sequence, techniques or procedures necessary for performing, superintending or coordinating any portions of the work of construction in accordance with the Contract Documents and any health or safety precautions required by any regulatory agencies. The Engineer and its personnel have no authority to exercise any control over any construction Contractor or other entity or their employees in connection with their work or any health or safety precautions. The Contractor agrees that the Contractor is solely responsible for job site safety. The Contractor also agrees, to the extent permitted by law, that the Owner, Engineer and Engineer's consultants shall be indemnified by the Contractor for claims, demands, damages, judgments, losses, interest, attorney's fees, litigation costs and expenses of any kind, at any time, for bodily injury and or property damage, arising out of or in any way connected to the Contractor's work or acts related to the Project. The Contractor also agrees that the Owner, Engineer and Engineer's consultants shall be made additional insured under the Contractor's general liability insurance policy.

CITY OF GRAND LEDGE

NOTICE TO BIDDERS

**COORDINATION CLAUSE**

GW: JRW

1 of 1

08/25/25

The Contractor is hereby notified that the following planned construction is adjacent or in proximity to this project. A portion, if not all, of the work included in this project is being completed concurrently with the following project(s):

Project Name:	Jaycee Park Playground
Project Limits:	Jaycee Park (east of ADA Observation Platform Site)
Owner:	City of Grand Ledge
Start Date:	August 2025
Open-to-Traffic Date:	November 2025
Impact to Project:	Coordination required to avoid conflicting operations at Jaycee Park and along E. River Street.

It shall be the contractor's responsibility to coordinate their activities with work taking place on other projects. No additional compensation will be made for any additional costs incurred by the Contractor resulting from conflict with another project.

CITY OF GRAND LEDGE  
SPECIAL PROVISION  
FOR  
**TIMELY PROJECT COMPLETION AND CLOSEOUT**

GW: JRW

1 of 1

04/28/23

**Description**

This special provision establishes the required procedures and schedules for the completion of deficient work and timely closeout of the project. The Contractor and Engineer shall coordinate the evaluation of completed work and correct any defects during the general progress of the work. This special provision does not revise any schedule constraints established in the contract documents.

**Procedure**

1. The Contractor shall submit written notification that the work is complete in accordance with section 109.07 of the MDOT Standard Specifications for Construction. The Engineer will conduct a final inspection and provide the Contractor the preliminary list of defects (punch list) and incomplete contract items within fifteen (15) calendar days of receipt of said notification. Any list(s) of defects provided by the Engineer prior to receiving the Contractor's written notification shall be considered unofficial and shall not be considered a complete list of defects.
2. The Contractor shall complete all work necessary to correct the identified defects and incomplete contract items and notify the Engineer in writing that all of the work has been completed within thirty (30) calendar days of receiving the list provided by the Engineer. At the discretion of the Engineer, an extension for this time period may be granted if the Contractor provides acceptable justification.

The Engineer will inspect the completed work and provide the Contractor the final defects list within ten (10) calendar days of receipt of the written notification from the Contractor that all of the previously identified work has been completed.

3. The Contractor must complete all work associated with the final defects list to the satisfaction of the Engineer and submit written notification that all work is completed within thirty (30) calendar days of receipt of the written notification from the Engineer. At the discretion of the Engineer, an extension for this time period may be granted if the Contractor provides acceptable justification.
4. Within thirty (30) calendar days of completing all contract items on the project, the Engineer will provide the Contractor with a list of quantities for each pay item in the contract. The Contractor will have thirty (30) calendar days to identify any quantity discrepancy and provide supporting documentation for the Engineer to review in order to substantiate their disagreement to the Engineer's quantities. If the Contractor fails to sufficiently identify quantity discrepancies within this period the Engineer reserves the right to consider the Engineer's quantities final.

CITY OF GRAND LEDGE  
SPECIAL PROVISION  
FOR  
**EROSION CONTROL, INLET FILTER**

GW: JRW

1 of 1

08/25/25

**Description**

This work shall be done in accordance with the requirements of Section 208 of the Michigan Department of Transportation 2020 Standard Specifications for Construction and as herein described:

**Materials**

Inlet filters meeting the requirements of the Eaton County Drain Commissioners shall be installed in all inlets within the influence of the construction.

**Construction**

The method of installation shall meet the requirements of the Eaton County Drain Commissioner. Failure by the Contractor to install inlet filters identified on the plans shall be cause for the Engineer to require the Contractor to clean any structure not properly protected as well as any downstream piping and structures where construction debris is present at the Contractor's expense.

Prior to final payment, inlet filters along with any construction debris found in drainage structures or downstream piping shall be removed by the Contractor.

The removal of construction debris from drainage structures and downstream piping shall not be paid separately.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
  
SPECIAL PROVISION  
FOR  
**TEMPORARY PEDESTRIAN TYPE II BARRICADE**

COS:CRB

1 of 2

APPR:CAL:CT:03-01-21  
APPR:FHWA:03-08-21

**a. Description.** This work consists of delivering, installing, maintaining, relocating, and removing a temporary pedestrian Type II barricade section as identified in the proposal or on the plans. Use temporary pedestrian Type II barricades to close non-motorized facilities including sidewalks, bicycle paths, pedestrian paths, and shared use paths that are not part of the roadway. One pedestrian Type II barricade is defined as a barricade section at least 43 inches wide, including all supports, ballast, and hardware.

**b. Materials.** Provide a temporary pedestrian Type II barricade that meets the requirements of *National Cooperative Highway Research Program Report 350 (NCHRP 350)* or *Manual for Assessing Safety Hardware (MASH)*, in addition to meeting the following requirements:

1. Provide barricade sections at least 43 inches wide, designed to interconnect to ensure a continuous accessible tactile barrier. Ensure the connection includes provisions to accommodate non-linear alignment as well as variations in elevation at the installation area.

2. Ensure the top surface of the barricade is designed to function as a hand-trailing edge and has a height between 32 and 38 inches. Ensure the lower edge of the barricade is no more than 2 inches above the surface of the non-motorized facility. Ensure the top edge of the bottom rail of the barricade is a minimum of 8 inches above the surface of the non-motorized facility. The barricade may have a solid continuous face. Finally, all features on the front face of the barricade (the face in contact with pedestrians) must share a common vertical plane.

3. Equip both sides of the barricade with bands of alternating 6-inch wide orange and white vertical stripes of reflective sheeting. Two bands of sheeting 6 inches tall and a minimum of 36 inches long containing at least two orange and two white stripes each are required. One band placed near the top and one near the bottom if the barricade section has a solid face. If the barricade consists of two rails, affix one band of sheeting to each rail. Ensure the stripes of reflective sheeting are aligned vertically. Ensure this sheeting meets or exceeds the requirements of *ASTM D4956, Type IV* sheeting.

**c. Construction.** Construct the temporary pedestrian Type II barricade in accordance with the manufacturer's recommendations, MMUTCD, the plans, and the following requirements:

1. Install the barricade as shown on the plans and as directed by the Engineer. Interconnect all barricade sections using hinge components, if necessary, to ensure a continuous detectable edge for the entire installation. Ensure the barricade is ballasted in accordance with the manufacturer's recommendations to ensure stability during wind events and contact with pedestrians.

2. When the barricade is installed near motor vehicle traffic, ensure reflective sheeting is visible to motorists.

3. When temporary pedestrian Type II barricades are used to close a non-motorized facility, ensure a sufficient number of barricade sections are used to block the entire width of the facility. The barricade may extend outside the edge of the non-motorized facility but must not be less than the full width of the facility.

4. If sections of multiple-colored barriers are used (i.e. safety orange and white) install the sections such that the colors alternate to increase conspicuity.

5. Ensure temporary pedestrian Type II barricades are not used to close a motor vehicle facility. Ensure these barricades are not used to guide pedestrian traffic on a motor vehicle facility in the presence of active traffic. This prohibition includes bicycle/shared use lanes or shoulders in the presence of active traffic.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Pedestrian Type II Barricade, Temp .....	Each

**Pedestrian Type II Barricade, Temp**, includes delivering, installing, maintaining, relocating, and removing one barricade section that is at least 43 inches wide. Additional payment will not be made if wider sections are provided. Payment will be made on delivery for the quantity delivered to the project site, up to planned quantity. Any amount delivered exceeding plan quantity will not be paid unless approved by the Engineer. This includes all rails, supports, ballast, hinge points, reflective sheeting, and miscellaneous hardware needed to install and maintain a barricade section.

CITY OF GRAND LEDGE

SPECIAL PROVISION  
FOR  
**PERMIT REQUIREMENTS**

GW: JRW

1 of 1

08/26/25

Bidders are advised that the following permits are required for this project:

SESC: A permit from the Eaton County Drain Commissioner is required for soil erosion and sedimentation control measures. The City of Grand Ledge has submitted an application for the Base Bid. If Bid Alternate #4 is selected, a plan for that proposed work shall be submitted by the City for review and approval. The Contractor shall be responsible to obtain permit from the County and provide the required inspection fee due at time of permit issuance. The costs associated with this permit shall be included in the Lump Sum price submitted for the Base Bid.

Building Permit: A permit from the Eaton County Building Official is required for the construction of the proposed structure. An allowance of \$5,000.00 has been determined for the Building Permit. This allowance shall be included in the Lump Sum price submitted for the Base Bid.

EGLE: A permit from the Michigan Department of Environment, Great Lakes, and Energy will be required if Bid Alternate #4 is selected. The City of Grand Ledge has submitted an application for this permit. The results of this application will not be known at the time of bidding. A determination on Bid Alternate #4 will be made once the status of the application is known but shall be accounted for in the construction schedule submitted to the city. There is no fee associated with this permit. The selected contractor shall be required to comply with all provisions identified in the permit.

**Work may not commence until permit agencies have issued all relevant permits.**

CITY OF GRAND LEDGE  
SPECIAL PROVISION  
FOR  
**CONSTRUCTION STAKING**

GW: JRW

1 of 1

08/25/25

**Description**

This work consists of providing construction staking for the proposed improvements in accordance with Section 824, more specifically 824.03.B, of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

**Measurement and Payment**

The completed work for Construction Staking shall not be paid separately.

CITY OF GRAND LEDGE

SPECIAL PROVISION  
FOR  
**EARTHWORK**

GW: JRW

1 of 1

08/25/25

**Description**

This work shall be done in accordance with the requirements of Section 205 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as herein described:

The work of Earthwork shall consist of constructing earth grades by excavating soil, rock, or existing naturally occurring materials, placing embankment and backfill of proposed improvements as necessary to develop the cross section and grades specified in the plans for the site improvements associated with the Jaycee Park ADA Observation Platform construction. The work shall include the disposing of surplus or unsuitable material; furnishing, placing and compacting of embankment materials; trimming of the earth grade and maintaining the work in a finished condition until acceptance by the Engineer.

Any of the existing material that is excavated and deemed suitable, as determined by the Engineer, may be used for the embankment material. The Contractor shall be responsible for the proper disposal of any existing material that is excavated and deemed unsuitable by the Engineer or in excess of what is required, including the following:

- Stripping of topsoil within the grading limits.
- Earth excavation, embankment and grading for aggregate base, sidewalk and bleachers.
- Backfilling adjacent to sidewalks and retaining walls with Engineer approved material.
- Grading for preparation of topsoil surface.
- Removal of solid boulders, one-half cubic yard or more in volume.
- Any required temporary shoring or protective fencing required for the improvements.

Hauling and placement of off-site material that may be required for embankment will not be paid for separately.

Temporary shoring or protective fencing required for the installation of the improvements will not be paid for separately.

The Contractor(s) shall be responsible for determining their own volume of earthwork required to construct the proposed improvements to the grade specified in the construction plans.

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 SUMMARY:

- A. Section includes: This Section includes, but not necessarily limited to, the submittal of Shop Drawings. Samples and other information as indicated on the Drawings, as specified herein, and as necessary for the proper and complete performance of the Work.
- B. Related Sections:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to:
    - a. General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
    - b. Individual submittals required: Pertinent Sections of these Specifications.

PART 2 - PRODUCTS

2.01 SUBMITTALS REQUIRING ENGINEER'S REVIEW AND RETURN:

- A. Drawings:
  - 1. Scale required: Unless otherwise specifically directed by ENGINEER, make all drawings accurately to a scale sufficiently large to indicate all pertinent features of the item and its method of connection to the Work.
  - 2. Type and number of prints required:
    - a. Submit the number of copies which are required to be returned plus 4.
- B. Manufacturer's literature and product data:
  - 1. General: Where content of submitted literature from Manufacturers includes data not pertinent to this submittal, clearly indicate which portion of the contents is being submitted for ENGINEER's review.
  - 2. Number of copies required: Submit the number of copies which are required to be returned plus 4.
- C. Calculations:
  - 1. Performance type design calculations: Shall be prepared and sealed by a Professional Engineer licensed in the state where the project is being constructed.
  - 2. Number of copies required: Submit the number of copies which are required to be returned plus 4.
- D. Samples:
  - 1. General:
    - a. Samples:
      - i. Illustrate materials, equipment and workmanship.
      - ii. Establish standards by which completed work is judged.
  - 2. Accuracy of Sample: Unless otherwise specifically directed by ENGINEER, all Samples shall be of the precise articles proposed to be furnished.
  - 3. Number of Samples required: Submit all Samples in the quantity which is required to be returned plus 1.
- E. Colors and patterns: Unless the precise color and pattern is specifically described in the Contract Documents, whenever a choice of color or pattern is available in a specified Product, submit accurate color charts and pattern charts to ENGINEER for review and selection.
- F. Manuals:
  - 1. General:
    - a. Where manuals are required to be submitted covering items included in this Work, prepare all such manuals in durable plastic binders approximately 8 ½ inches x 11 inches in size and with at least the following:
      - i. Identification on, or readable through, the front cover stating general nature of the manual.
      - ii. Neatly typewritten index near the front of the manual.

- iii. Complete instructions regarding operation and maintenance of all equipment involved.
  - iv. Complete nomenclature of all replaceable parts, their part numbers, current costs and name and address of nearest vendor of parts.
  - v. Copies of all guarantees and warranties issued.
  - vi. Copies of the reviewed drawings.
  - vii. Copies of all data concerning all changes made during construction.
2. Extraneous Data: Where contents of the manuals include Manufacturer's catalog pages. Clearly indicate the precise items included in this installation and delete or otherwise clearly indicate all Manufacturer's data with which this installation is not concerned.
  3. Number of copies required: Unless otherwise specifically directed by ENGINEER or stipulated in the pertinent Section of these Specifications. Deliver 4 copies of the manual to ENGINEER.

2.02 SUBMITTALS NOT REQUIRING ENGINEER'S RETURN:

- A. General:
  1. Including, but not necessarily limited to:
    - a. Test Reports.
    - b. Certifications and affidavits.
    - c. Installation instructions.
  2. Number required: Submit 4 copies.

PART 3 - EXECUTION

3.01 SCHEDULE OF SUBMITTALS:

- A. Preparation and submittal of a schedule of submittals:
  1. Prepare and submit a schedule of submittals as required by Section 00700: General Conditions.
  2. The schedule of submittals shall include the following:
    - a. Shop Drawings.
    - b. Manufacturer's literature and product data.
    - c. Samples.
    - d. Colors and patterns.
    - e. Manuals.
    - f. Other submittals required by the Contract Documents.
  3. Allow at least 15 full working days for ENGINEER's review following ENGINEER's receipt of the submittal unless ENGINEER has agreed to a shorter period for specific submittals.
  4. Schedule submittals, except operation and maintenance manuals, far enough in advance of scheduled dates for installation to provide all required time for reviews for securing necessary approvals for possible revision and resubmittal, and for placing orders and securing delivery.
  5. Schedule submittal of operation and maintenance manuals at least 60 days prior to system Substantial Completion unless otherwise specified.
- B. Make all submittals in accordance with the schedule of submittals.
- C. Be responsible for costs of delays caused by tardiness of submittals.

3.02 COORDINATION OF SUBMITTALS:

- A. General:
  1. Prior to submittals for ENGINEER's review. Use all means necessary to fully coordinate all material including the following procedures:
    - a. Determine and verify all field dimensions and conditions, catalog numbers and similar data.
    - b. Coordinate as required with all trades and all public involved.
    - c. Secure all necessary approvals from public agencies and others; signify by stamp or other means that all required approvals have been obtained.
    - d. Clearly indicate all deviations from the Contract Documents.
- B. Grouping of submittals:
  1. Unless otherwise specifically permitted by ENGINEER, make all submittals in groups containing all associated items.
  2. ENGINEER may reject partial submittals as not complying with the provisions of the Contract Documents.

3.03 IDENTIFICATION OF SUBMITTALS:

- A. General:
  - 1. Consecutively number all submittals.
  - 2. Accompany each submittal with a letter of transmittal showing the following:
    - a. Project title and number.
    - b. OWNER.
    - c. Subcontractor.
    - d. Date of submittal.
    - e. Specification Section or Drawing number to which the submittal pertains.
    - f. Brief description of the material submitted.
    - g. Submittal identification number.
  - 3. Mark each submittal with:
    - a. Company name of the originator of the submittal.
    - b. Deviations from Contract Documents.
    - c. CONTRACTOR's approval of the submittal.
    - d. Submittal identification number adjacent to CONTRACTOR's approval.
- B. Resubmittal:
  - 1. When material is resubmitted for any reason, transmit under a new letter of transmittal with a suffix added to the original submittal identification number.
  - 2. Indicate that this is a resubmittal and refer to the previous submittal.
- C. Submittal Log:
  - 1. Maintain an accurate submittal log for the duration of the construction period showing the status of all submittals of all types.
  - 2. Make the log available to ENGINEER for review upon request.

3.04 RETURN OF SUBMITTALS:

- A. Submittals requiring ENGINEER review and return:
  - 1. With status. "Rejected. Resubmit":
    - a. Drawings: ENGINEER will retain 1 copy and return the rejected copies to CONTRACTOR.
    - b. Manufacturer's literature and product data: ENGINEER will retain 1 copy and return remaining copies to CONTRACTOR.
    - c. Other submittals: ENGINEER will notify CONTRACTOR of rejection.
  - 2. With status: "Reviewed. No Exceptions Taken" and "Reviewed w/Corrections Noted":
    - a. Drawings: ENGINEER will retain 4 copies and return the remaining copies to CONTRACTOR.
    - b. Manufacturer's literature and product data: ENGINEER will retain 4 copies and return the remaining copies to CONTRACTOR.
    - c. Samples: ENGINEER will retain 1 Sample and return the remaining Samples to CONTRACTOR.
    - d. Colors: ENGINEER will retain color charts and pattern charts and will indicate color and pattern choices to CONTRACTOR.
- B. Submittals not requiring ENGINEER return: No copies will be returned.

3.05 RESUBMISSION REQUIREMENTS:

- A. Drawings:
  - 1. Revise initial drawings as required and resubmit as specified for initial submittal.
  - 2. Indicate on drawings all changes which have been made other than those requested by ENGINEER.
  - 3. If the same drawings are submitted with additional data and revisions, clearly identify the added data and revisions on the drawings.
- B. Other submittals: Submit as required for initial submittal.

3.06 RE-REVIEW COST:

- A. Should ENGINEER be required to review a submittal more than twice because of failure of the submittal to meet the requirements of the Contract Documents, ENGINEER will record ENGINEER's expenses for performing all additional reviews. The OWNER will compensate ENGINEER for these additional services and deduct the amount paid from payments to CONTRACTOR.

END OF SECTION

SECTION 01410

TESTING SERVICES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. This section includes, but is not necessarily limited to, testing services, as indicated in the Drawings, as specified herein and as necessary for the proper and complete performance of the Work.
2. General requirements:
  - a. Testing services and certifications which are to be included in CONTRACTOR's unit prices:
    - i. Inspections and tests required by codes or ordinances or by a plan approval authority and made by a legally constituted authority.
    - ii. Inspections, testing services and certifications including, but not limited to, the following items shall be furnished by CONTRACTOR:
      - a) Pipe leakage tests.
      - b) Pipe material yield strength tests at ENGINEER's request.
      - c) Cement Manufacturers' certification tests at ENGINEER's request.
      - d) Fine and coarse aggregate certification tests by Supplier at ENGINEER's request
      - e) Bedding material certification tests by Supplier at ENGINEER's request.
      - f) Testing in connection with ENGINEER's review of materials and equipment proposed to be incorporated into the Work.
      - g) Testing performed for CONTRACTOR's convenience.
3. OWNER paid items:
  - a. OWNER may elect to test or to employ either ENGINEER or an independent testing agency to test any materials or systems on the Project. The cost of this testing will be paid for by OWNER.

B. Related Sections:

1. Documents affecting work of this Section include, but are not necessarily limited to:
  - a. General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
2. Additional requirements for testing of materials and systems mentioned in this Section may be described in other Sections of these Specifications.

1.02 REFERENCES:

A. Except as herein specified or as indicated on the Drawings, the work of this Section shall comply with the following:

1. ASTM Standard Specifications:
  - a. C 31 – Making and Curing Concrete Test Specimens in the Field.
  - b. C 39 – Test for Compressive Strength of Cylindrical Concrete Specimens.
  - c. C 138 – Test for Unit Weight, Yield and Air Content of Concrete.
  - d. C 143 – Test for Slump of Hydraulic Cement Concrete.
  - e. C 172 – Sampling Fresh Concrete.
  - f. C 173 – Test for Air Content of Freshly Mixed Concrete by the Volumetric Method.
  - g. C 192 – Making and Curing Concrete Test Specimens in the Laboratory.
  - h. C 231- Test for Air Content of Freshly Mixed Concrete by the Pressure Method.
  - i. D 1556 – Density of Soil In Place by the Sand-Cone Method.
  - j. D 1557 – Moisture-Density Relations of Soils and Soils Aggregate Mixture Using 10 Pound Hammer and 18 Inch Drop.
  - k. D 1586 – Penetration Test and Split Barrel Sampling of Soils.
  - l. D 2166 – Unconfined Compressive Strength of Cohesive Soil.
  - m. D 2922 – Density of Soil and Soil Aggregates by Nuclear Methods.
  - n. D 2937 – Density of Soil in Place by Drive Cylinder Method.

2. AWS – American Welding Society:
    - a. D1.1 – Structural Welding Code.
  3. ACI – American Concrete Institute:
    - a. 211.1 – Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
    - b. 301 – Specification for Structural Concrete for Buildings.
    - c. 318 – Building Code Requirements for Reinforced Concrete.
    - d. 506R – Guide to Shotcrete.
  4. BOCA Building Code.
- 1.03 TEST REQUIREMENTS:
- A. In accordance with:
    1. Laws and Regulations.
    2. Sections of these Specifications.
    3. Reference procedures and requirements.
    4. Pertinent standards for testing.
    5. BOCA Building Code.
- 1.04 COLLECTING AND TRANSPORTING SAMPLES:
- A. Samples:
    1. Collected by CONTRACTOR and transported by CONTRACTOR to a location determined by ENGINEER.
- 1.05 RETESTING COSTS:
- A. Retesting:
    1. When initial tests of all items except soil compaction indicate noncompliance with the Contract Documents, all subsequent testing occasioned by the noncompliance shall be performed by the same testing laboratory, and the costs thereof will be deducted by OWNER from the Contract Sum.
    2. The first retesting of soil compaction shall be paid for by OWNER. The second and subsequent retesting costs for soil compaction due to noncompliance with the Contract Documents shall be performed by the same laboratory, and the costs thereof will be deducted by OWNER from the Contract Sum.
  - B. Costs:
    1. Uncovering costs shall be paid for as described in Article 13 of Section 00700: General Conditions.
- 1.06 REPORTS:
- A. Provide typed copies of all laboratory reports, inspections, and certifications:
    1. ENGINEER’s office: Two copies.
    2. CONTRACTOR’s office: One copy.
- 1.07 SCHEDULES FOR TESTING:
- A. Establishing schedule:
    1. By advance discussion with the independent testing laboratory, determine the time required to perform tests and issue findings.
  - B. Revising schedule:
    1. When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the independent testing laboratory as required.
  - C. Adherence to schedule:
    1. When the independent testing laboratory is ready to test according to the determined work schedule, but is prevented from testing or taking specimens due to incompleteness of Work, all extra costs for testing attributable to the delay may be charged to CONTRACTOR and shall not be borne by OWNER.
- 1.08 CONTRACTOR’S DUTIES:
- A. Coordinate and schedule the work of the independent testing laboratory:
    1. Notify ENGINEER and the independent testing laboratory 24 hours prior to expected time when testing services will be required.

2. Provide the following as necessary for laboratory to properly perform its functions:
  - a. Access to the Work.
  - b. Facilities for access to the Work.
  - c. Tools.
  - d. Samples of materials.
  - e. Storage.
  - f. Assistance as requested.

## PART 2 - PRODUCTS

Not used.

## PART 3 - EXECUTION

### 3.01 TESTING REQUIREMENTS:

- A. Fine and coarse aggregate and bedding material:
  1. Test to ensure compliance with the materials specifications, at the request of ENGINEER.
- B. Fill material from on-site and off-site:
  1. Test to ensure compliance with the materials specifications.
- C. Soil Compaction:
  1. Perform all necessary laboratory and field testing required to verify compaction of fill, trench backfill, and structure of backfill to 95 percent Modified Proctor in accordance with ASTM D 1557.
  2. Verify the compaction of the first 12 inches of the existing subgrade below all structures, paved areas and areas to be filled to 95 percent Modified Proctor in accordance with ASTM D 1557.
  3. Independent testing laboratory shall inform ENGINEER's Resident Project Representative and CONTRACTOR's on-site supervisor immediately of all on-site test results.
  4. Place no additional fill in areas where compaction results do not meet Specification requirements.
- D. Concrete testing:
  1. Point of sampling and the method of securing the Samples:
    - a. Determined by the independent testing laboratory.
    - b. In accordance with ASTM C 172.
  2. Slump tests:
    - a. Perform slump tests in accordance with ASTM C 143.
    - b. Perform one slump test on the job for each 10 cubic yards of concrete.
    - c. At ENGINEER's request, also perform slump tests at batch plant.
    - d. Perform more slump tests if deemed necessary by ENGINEER.
  3. Perform 1 air-entraining test in accordance with ASTM C 231 or C 173 for each truckload or every 10 yards of concrete placed, whichever is more frequent.
  4. Test the concrete unit weight in accordance with ASTM C 138.
  5. Test the air content of each set of concrete cylinders.
  6. Concrete cylinder testing:
    - a. In accordance with ASTM C 31 and C 39.
    - b. Take concrete cylinder Samples as follows:
      - i. Once each day a given class of concrete is placed, nor less than
      - ii. Once for each 150 cubic yards (or fraction thereof) of each class of concrete placed on each day, nor less than
      - iii. Once for each 5000 square feet of slab or wall surface area placed each day.
    - c. Concrete cylinder Sample shall consist of 4 standard 6-inch cylinders.
    - d. Handle cylinders carefully.
    - e. On-site storage:
      - i. 12 hours, minimum, 48 hours maximum.
      - ii. At a temperature range of 60 to 80 degrees F and in a moist environment.
      - iii. Shielded from direct sunlight and radiant heat.

- iv. CONTRACTOR shall construct heated enclosure if conditions require.
    - f. Laboratory curing: For duration of curing after on-site storage.
    - g. Test 1 of the cylinders at 7 days and 2 cylinders at 28 days. Save 1 cylinder as a spare.
    - h. Acceptance and evaluation of the concrete shall be based on ACI 301.
- E. Miscellaneous tests:
  - 1. OWNER or ENGINEER may elect to order testing of other materials by Independent Testing Laboratory.

END OF SECTION

**APPENDIX A**

**SPECIAL PROVISIONS**

CITY OF GRAND LEDGE  
SPECIAL PROVISION  
FOR  
**PRECAST CONCRETE, HOLLOW CORE SLABS**

**Part 1 General**

**1.01 Scope**

- A. This Section includes precast and precast prestressed structural concrete as indicated on the Plans complete with product design, manufacture, transportation, erection, and other related items such as anchorage, bearing pads, storage and protection, and concrete topper with welded wire fabric.

**1.02 Related Work Specified Elsewhere**

- A. Structural Prestressed Concrete Construction – Section 708 - MDOT 2020 Standard Specifications for Construction

**1.03 Reference Standards**

- A. Unless otherwise specified, the Work for this Section shall conform to the applicable portions of the following Standard Specifications:
  - 1. AASHTO - American Association of State Highway and Transportation Officials
  - 2. ACI - American Concrete Institute
  - 3. AWS - American Welding Society
  - 4. ASTM - American Society for Testing and Materials
  - 5. PCI - Prestressed Concrete Institute

**1.04 Qualifications**

- A. Manufacturer shall be a company specializing in providing precast and/or precast prestressed concrete products and services normally associated with the industry for at least five (5) years. When requested by the ENGINEER, submit written evidence to show experience, qualifications and adequacy of plant capability and facilities for performance of Contract requirements.
- B. Erector shall be regularly engaged for at least five (5) years in the erection of precast structural concrete similar to the requirements of this Project.
- C. Welders shall have qualified within the past year in accordance with AWS D1.1.

**1.05 Design Criteria**

- A. Submit design calculations by a registered professional engineer, registered in the state where the Work is located, experienced in precast, prestressed concrete design.
- B. Use in the design, applicable codes, ACI 318, or AASHTO Standard Specifications for Highway Bridges.
- C. Include in the design loads: all dead and live loads as indicated on the Plans, initial handling and erection stresses, and all other loads specified for members where they are applicable.
- D. Watertight Precast reinforced concrete structures shall be designed in accordance with ASTM C890, for A-16 (HS20) loading and installation conditions.

- E. The concrete topping will meet the requirements of the MDOT Standard Specifications for Construction (2020), Section 1006, for Latex Modified Concrete Overlay Mixture. Concrete topper shall have a welded wire fabric reinforcement.

#### **1.06 Reference Specifications**

- A. All local codes plus the following Specifications, standards and codes are a part of these Specifications:
  - 1. ACI 318 - Building Code Requirements for Reinforced Concrete.
  - 2. AWS D1.1 - Structural Welding Code.
  - 3. AWS D1.4 - Reinforcing Steel Welding Code.
  - 4. AASHTO Standard Specifications for Highway Bridges.

#### **1.07 Allowable Tolerances**

- A. Design deviations may be permitted only after the ENGINEER's review of the manufacturer's proposed design supported by complete design calculations and drawings.
- B. Provide an installation equivalent to the basic intent of the Work without incurring additional cost to the OWNER.
  - 1. Length:  $\pm 1/8$  inch per 10 feet (1 mm per meter),  $\pm 1/4$  inch (5 mm) maximum
  - 2. Cross sectional dimensions:
    - a. Less than 24 inches (600 mm):  $\pm 1/4$  inch, (5 mm)
    - b. 24 to 36 inches (600 to 900 mm):  $\pm 3/8$  inch (9 mm)
    - c. Over 36 inches (900 mm):  $\pm 1/2$  inch (10 mm)
  - 3. Thickness:  $\pm 1/4$  inch (5 mm)
  - 4. Position of anchors and inserts:  $\pm 1/2$  inch (10 mm) of centerline location shown on the Plans.
  - 5. Horizontal alignment or sweep:  $1/4$  inch (5 mm) total or  $1/8$  inch per 10-foot length (1 mm per meter), whichever is greater. Maximum of  $1/2$  inch (10 mm) gap between two (2) adjacent members due to sweep.
  - 6. End squareness:  $3/8$  inch (9 mm) maximum
  - 7. Blockouts:  $\pm 1/2$  inch (10 mm) off centerline locations shown on the Plans.
  - 8. Out of square:  $1/8$  inch per six (6) feet (5 mm per 3 m) measured on the diagonal.
  - 9. Warpage, after installation:  $1/8$  inch per 6-foot (5 mm per 3 m) length, or  $3/8$  inch (9 mm), whichever is greater.
  - 10. Vertical alignment:
    - a. Bottom edges of members from line established at lower face:  $\pm 1/4$  inch (5 mm).
    - b. Bottom surface from straight line between supports:  $1/240$  of clear span.

#### **1.08 Source Quality Control**

- A. Comply generally with applicable provisions of Prestressed Concrete Institute MNL-116, Manual for Quality Control for Plants and Production of Precast, Prestressed Concrete Products.

#### **1.09 Submittals**

- A. The CONTRACTOR shall submit design calculations of products not completed and/or indicated on the Plans in accordance with the provisions of Article 1.05 of this Section.
- B. Submit erection or production drawings showing:
  - 1. drawings and/or elevations locating and defining all material furnished by manufacturer.

2. sections and details showing connections, cast-in items and their relation to the structure.
  3. description of all loose, cast-in and field hardware.
  4. field installed anchor location drawings.
  5. erection sequences and handling requirements.
  6. elevation view of each member.
  7. sections and details to indicate quantities and position of reinforcing steel, anchors, inserts, etc.
  8. lifting and erection inserts.
  9. dimensions and finishes.
  10. prestress for strand and concrete strengths.
  11. estimated cambers.
  12. method of transportation.
- C. Submit test certificates identifying chemical and physical analysis of materials used for fabrication and physical analysis of the precast product.

#### **1.10 Delivery and Handling**

- A. Perform transportation, site handling, and erection with acceptable equipment, methods, and by qualified personnel.

#### **1.11 Storage**

- A. Store all units off ground.
- B. Place stored units so that identification marks are easily discernible.
- C. Separate stacked members by battens across full width of each bearing point.
- D. Stack so that lifting devices are accessible and undamaged.
- E. Do not use upper member of stacked tier as storage area for shorter member or heavy equipment.

#### **1.12 Site Access**

- A. Provide suitable access to the building and firm level bearing for the hauling and erection equipment to operate under its own power.

### **Part 2 Products**

#### **2.01 Portland Cement**

- A. Shall be Type I or Type III: ASTM C150.

#### **2.02 Aggregates**

- A. Lightweight aggregates for concrete: ASTM C330.
- B. Fine and coarse aggregate, other than lightweight aggregate: ASTM C33.

#### **2.03 Admixtures**

- A. Air-entraining admixtures: ASTM C260.
- B. Water reducing, retarding, accelerating admixtures: ASTM C494.

#### **2.04 Water**

- A. Potable or free from foreign materials in amounts harmful to concrete and embedded steel.

#### **2.05 Reinforcing Steel**

- A. Reinforcing bars and wire fabric: Per Section 03 2000, Concrete Reinforcing.
- B. Strand Wire or low relaxation strands: Grade 270K, conforming to uncoated 7-wire stress-relieved strand for prestressed concrete: ASTM A416.

#### **2.06 Grout**

- A. Grout: Per Section 04 0511, Mortaring and Grouting and complying with the following:
  - 1. Cement Grout: One (1) part Portland cement, 2-1/2 parts sand, sufficient water for placement and hydration.
  - 2. Nonshrink Grout: Premixed, packaged nonstaining, nonshrink grout.

#### **2.07 Bearing Pads**

- A. Use bearing pads of the type recommended by the manufacturer where indicated on the plans.

#### **2.08 Welded Studs**

- A. Shall be in accordance with AWS D1.1.

#### **2.09 Caulking**

- A. Shall be a nonstaining 1-part polymer acrylic base sealant.

#### **2.10 Concrete Mixes**

- A. Precast, Prestressed
  - 1. The mixture and mixing of concrete shall be in accordance with ACI 304. The mixture shall produce concrete with the 28-day compressive strength no less than 5,000 psi (34.4 MPa). The strength at initial prestress or form release shall be no less than 3,500 psi (24 MPa). Use of calcium chloride, chloride ions or other salts is not permitted.
- B. Precast
  - 1. Shall be the same requirements of precast, prestressed, except the mixture shall produce concrete with the 28-day compressive strength no less than 4,000 psi (27.5 MPa).
- C. Concrete Topping
  - 1. Shall meet the requirements of the MDOT Standard Specifications for Construction (2020), Section 1006, for Latex Modified Concrete Overlay Mixture. Mixing, placing, finishing, and curing the topping will follow Section 712.03.P of the 2020 MDOT Standard Specifications. The finish will be approved by the Owner.

#### **2.11 Fabrication and Manufacture**

- A. The fabrication and manufacture of precast and/or prestressed products shall comply with the PCI Manual of Practice, and as specified herein.
- B. Provide for those openings ten (10) inches (250 mm) round or square or larger as shown on the Plans. Other openings may be located and field drilled or cut after the precast

prestressed products have been erected. Openings shall be approved by the ENGINEER before drilling or cutting. No tension reinforcement shall be cut.

- C. Patching will be acceptable providing the structural adequacy of the product and the appearance are not impaired.
- D. The manufacturer shall cast in structural inserts, bolts and plates as detailed or required by the Plans or shop drawings.
- E. No imperfections, honeycomb, or other defects shall be permitted. Provide smooth and dense surfaces, free of voids and projections.
- F. Strands shall be recessed 1-inch (25 mm) and holes grouted. The ends of the member shall receive a smooth finish.
- G. Fabricate precast reinforced concrete structures in accordance with ASTM C913, to the dimensions indicated on the plans, and the specified design criteria.

#### **2.12 Acceptable Manufacturers**

- A. Precast concrete deck shall be as manufactured by Prestressed Systems Inc.; StresCore Inc.; or equal.

### **Part 3 Execution**

#### **3.01 Contractor's Verification**

- A. Examine the substrates and conditions under which the precast concrete is to be installed and notify the CONTRACTOR in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

#### **3.02 Preparation**

- A. Providing true, level bearing surfaces on all field placed bearing walls and other field placed supporting members.
- B. Place and accurately align anchor bolts, plates or dowels in column footings, grade beams and other field placed supporting members.
- C. All shoring required for composite beams and slabs shall conform to all applicable building codes.

#### **3.03 Installation - General**

- A. Installation of precast prestressed concrete shall be performed by the manufacturer, or a competent erector subcontracted by the CONTRACTOR. Members shall be lifted by means of suitable lifting devices at points provided by the manufacturer. Temporary shoring and bracing, if necessary, shall comply with manufacturer's recommendations.

#### **3.04 Alignment**

- A. Members shall be properly aligned and leveled as required by the Shop Drawings. Variations between adjacent members shall be reasonably leveled out by jacking, loading, or any other feasible method as recommended by the manufacturer and acceptable to the ENGINEER.

**3.05 Field Welding**

- A. Field welding is to be done by qualified welders using equipment and materials compatible to the base material.

**3.06 Grouting and Caulking**

- A. After installation of precast units are complete, joints shall be grouted and/or caulked as indicated on the Plans or determined by the ENGINEER. Joints shall be completely filled with grout. Any grout which seeps through joints shall be removed and surfaces cleaned before the grout hardens.
- B. Caulking shall be used at all underside joints between members and along bearing walls or beams. Concurrently with the caulking and grouting operation, any chipped or damaged sections or areas adjacent to openings or otherwise imperfect surfaces shall be carefully patched to match the precast surface.

**3.07 Attachments**

- A. Subject to the approval of the ENGINEER, precast prestressed products may be drilled or shot, provided no contact is made with the prestressing steel.

**3.08 Field Quality Control**

- A. Final inspection and acceptance of erected precast and precast prestressed concrete shall be made by the ENGINEER to verify conformance with Plans and Specifications.

**3.09 Schedules**

- A. Precast product quantity, location, surface finish and dimensions shall be as indicated on the Plans.

**3.10 Concrete Topping**

- A. Mixing, placing, and curing the topping will follow Section 712.03.P of the 2020 MDOT Standard Specifications. The finish will be approved by the Owner.

**Part 4 Measurement and Payment**

**4.01 Measurement and Payment.**

- A. The estimated quantities for Precast Concrete, Hollow Core Slabs are based on structural details as shown in the Drawings.

<b>Contract Item (Pay Item)</b>	<b>Pay Unit</b>
Precast Concrete, Hollow Core Slabs, ____ Inch.....	Square Foot

The Precast Concrete, Hollow Core Slabs, \_\_\_\_Inch pay item shall include all labor and material required for preparation, delivery, installation, grouting, finishing, and topping in accordance with this Special Provision and as detailed in the Drawings.

End of Section

CITY OF GRAND LEDGE

SPECIAL PROVISION  
FOR  
**STEEL RAILING**

REV. 08/25/25

WTA: RRB

1 of 4

01-19-22

**a. Description.** This work consists of designing, furnishing, and erecting steel handrail as shown on the plans and as specified herein. The steel tube handrails are located at the concrete structure and the concrete stairway.

**b. Materials.**

1. Steel Railing. Provide a manufactured railing comprised of horizontal rails, vertical posts, vertical pickets where required, and all connecting hardware. Select the handrail system from one of the following manufacturers, or approved equal:

Elite Fence Products, Inc. Model EFR-20 3-RAIL, 42" ht., bronze color w/ ADA handrail added where shown on plan or approved equal.

2. Anchor Bolts. Use anchor bolt material in accordance with subsection 908.14.D of the Standard Specifications for Construction.

3. Steel Sleeve Inserts. Provide sleeves into the concrete of a diameter large enough to receive the handrail posts and allow for a non-shrink grout around the post. The non-shrink grout shall conform to Section 1005 of the 2020 MDOT Standard Specifications

**c. Construction.**

1. Design. Coordinate railing post spacing with the plans. Design the railing system for wind loading surface roughness C in accordance with *ASCE Standard 7*.

2. Submittals. Electronically submit working drawings to the Engineer for review and approval at least 20 calendar days prior to fabrication. Working drawings must include details of fabrication, installation including, but not limited to: plan views, elevation views, section views, component details, hardware and fittings details, galvanization and coating details. Submit representative samples of coated railing components to the Engineer for review and approval not less than 30 calendar days prior to working drawing submittal. In addition, electronically submit the following information to the Engineer for approval not less than 30 calendar days prior to working drawing submittal:

A. Name, location and contact information where powder coating of railings will be performed.

B. Quality Control (QC) programs established and followed by the firm performing powder coating operations.

C. Powder coating plan, including identification of the powder coating materials used (and manufacturer), specific cleaning, surface preparation, pre-heating, powder coating application, curing, shop and field coating repair, handling and storage processes.

D. Product data and material safety data sheets (MSDS) for all powder coating and coating repair materials.

E. General Certifications for galvanizing coating designation.

3. Railing Fabrication. Fabricate railing in accordance with the manufacturer's recommendations, the plans, and as shown on the approved working drawings.

Perform welding in accordance with AWS D1.1 - Structural Welding Code - Steel. Repair damaged galvanized surfaces in accordance with subsection 716.03.E of the Standard Specifications for Construction after all drilling, cutting and welding of components has been completed and prior to powder coating.

Galvanize bolts, nuts, washers and screws in accordance with *ASTM A 153*. Do not utilize water-quenching, chromate-quenching or apply a chromate conversion coating as part of the galvanization process. Keep galvanized surfaces clean and dry prior to powder coating. Do not store galvanized material outdoors and protect from rain. Clean and prepare newly galvanized surfaces in accordance with *ASTM D 6386* and the powder coating plan approved by the Engineer. Perform surface smoothing and surface cleaning in accordance with *ASTM D 6386 Section 5* and prepare surfaces in accordance with *ASTM D 6386 Section 5.4.2*.

Notify the Engineer of all surface cleaning and preparation activities and provide the Engineer the opportunity to perform quality assurance inspection at the completion of the surface cleaning and preparation activities but prior to beginning the powder coating application.

After surface preparation is completed, apply powder coatings in accordance with the powder coating manufacturer's recommendations, the approved powder coating plan, and as follows:

- A. Pre-heat sufficiently to prevent pin holes from forming in the finished coating system.
- B. Apply and cure the epoxy coating using the coating manufacturer's recommendations. Apply the epoxy coating at a minimum thickness of 2 mils.
- C. Apply and cure the polyester coating using the coating manufacturer's recommendation.

Perform testing in accordance with the approved QC program. Visually inspect powder coating for unacceptable surface imperfections. Verify through testing that the epoxy primer coating and polyester finish coating are 2 mils each in thickness. Verify through testing that the finish coat provides a minimum hardness value of H in accordance with *ASTM D 3363*. Verify through testing that the adhesion for the complete two component coating system is not less than 400 pounds per square inch (psi) in accordance with *ASTM D 4541*. Perform solvent cure test in accordance with the *Powder Coating Institute Test Procedure #8*. Document the results of all testing in a QC report and electronically submit to the Engineer for approval. Provide access to the Engineer to witness testing. Failure to satisfy testing requirements is cause for rejection by the Engineer.

4. Installation. Install the handrails in accordance with the manufacturer's recommendations and as shown on the plans. Install posts plumb.

5. Shipping and Handling. Protect components and assemblies from damage in accordance with the manufacturer's recommendations. Repair damaged components to the satisfaction of the Engineer. If satisfactory repairs cannot be made, replace damaged components. All costs associated with repairing and replacing damaged components will be borne by the Contractor. Do not deliver assemblies or components to the site until the Engineer approves the QC report.

**Table 1: Handrail Coating Requirements**

Test Property	Test Method	Specification Limits
Abrasion	<i>ASTM D 1044</i> Tabor Abraser CS-10, 1000 gm load, 1000 cycles	100 mg max weight loss
Adhesion	<i>ASTM D 3359</i> Initial & 1000 hr, Method A	Rating 5A
Gloss	<i>ASTM D 523</i> Initial, 500 hr, 1000 hr	90 percent @ 60 degrees 60 percent @ 60 degrees
Hardness	<i>ASTM D 3363</i>	2H – No Gouge
Impact	<i>ASTM D 2794</i>	Pass 9 N m
Salt Spray Resistance	<i>ASTM B 117</i> <i>ASTM D 1654</i> 1000 hr unscribed 400 hr scribed	Table 2, Rating 10 Table 2, Rating 10
Weather Resistance	<i>ASTM G 152</i> 102 min light at 63 (±3) degrees C black panel temperature 18 min light and water spray air temperature not controlled) as Table X1.1 Cycle 1a.	No Film Failure
Infrared Spectrogram	Equipment Manufacturer's Procedure	Match Original
Flexibility	6.35 mm Mandrel 180 degrees bend in 1 sec, cured per manufacturer's recommendations	No breaks, flaking, or cracks. Tested with a Q-panel with no cracking
Thickness	<i>ASTM D 7091</i>	2 mils minimum
Humidity	<i>ASTM D 2247</i> 1000 hr	No blistering
Δ E Color Change	<i>ASTM D 5894</i> Initial, 1000 hr <i>ASTM D 2244</i>	<2.0

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**TURF ESTABLISHMENT, PERFORMANCE**

DES:JLB

1 of 5

APPR:DMG:LML:01-13-15

**a. Description.** For the work identified in this special provision paid for by the pay item Turf Establishment, Performance only, delete section 816 of the Standard Specifications for Construction and replace it with this special provision. The Contractor is responsible for the performance and quality of turf growth in the areas indicated on the plans and as identified by the Engineer. Comply with all local, state and federal laws when completing this work.

Establish a durable, permanent, weed-free, mature, perennial turf. The work consists of fundamental turf work, including but not limited to topsoiling, seeding, mulching, erosion control, maintenance, watering and repair of turf as described herein during the life of the contract and during the life of any supplemental performance bond which may ensue.

Choose and implement proven turf establishment industry practices; provide all necessary labor and equipment; select and provide all turf establishment materials; and control erosion and any subsequent sedimentation at all times.

Perform a site analysis, interpret the results and implement a turf establishment program to ensure compliance with this specification. The site analysis must take into consideration topsoil needs, fertilizer and pH requirements, seed mix, existing and future soil moisture levels, slopes and grades, required erosion control items and devices, maintenance requirements, local highway snow removal and deicing practices, and any other characteristics that influence and affect turf establishment.

Subsection 107.11 of the Standard Specifications for Construction is revised relative to the Contractor's responsibility for the repair of turf establishment work as follows. The Contractor is responsible, at no additional cost to the contract, for the repair of turf establishment work occasioned by storm events up to 3 inches of rain in a 24 hour period as documented by local meteorological data submitted to the Engineer for review and approval. All other portions of subsection 107.11 remain unchanged.

1. Contractor Turf Establishment Experience Requirements. Ensure weed control is done by a commercial herbicide applicator, licensed by the State of Michigan and certified by the Michigan Department of Agriculture (MDA) in the appropriate category to apply herbicides. Use application procedures and materials according to federal, state and local regulations. Use of restricted use chemicals is prohibited. Provide appropriate documentation and secure approval from the Engineer before application of herbicides.

At least 10 work days prior to start of turf establishment, provide documentation to the Engineer, from the Contractor performing the turf establishment work, that they meet one or both of the following requirements.

A. At least one person employed by the Contractor performing the turf establishment work and assigned to the job site has a degree or certificate in Turf

Management, Horticulture or related field.

B. At least one person employed by the Contractor performing the turf establishment work and assigned to the job site has at least 5 years of experience in roadside turf establishment.

**b. Materials.** Provide topsoil, seed, mulch, pesticide, herbicide, mulch blankets and any other unique erosion control materials as necessary to fulfill this specification, as detailed on the plans. Use additional materials, as necessary, to meet the standards set forth for turf establishment in this special provision. The use of sod on the project requires the prior approval of the Engineer and if approved, may be used at limited site locations only.

Selection of all materials is the responsibility of the Contractor with the following minimum conditions.

1. Soil. Provide furnished or salvaged topsoil, which may be blended compost, that will support vigorous growth. Ensure topsoil is humus bearing and placed at least 4 inches deep. Ensure it is free of stones larger than 1/2 inch (2 inches on freeway projects) in diameter and other debris. Trim and grade the finished slope in accordance with subsection 205.03.N of the Standard Specifications for Construction.

2. Seed. Use a seeding mixture that is composed of four or more species of perennial grass. Use only species and their cultivars or varieties which are guaranteed hardy for Michigan.

Recommended species of perennial grasses include: Kentucky Bluegrass, Perennial Ryegrass, Hard Fescue, Creeping Red Fescue, Chewings Fescue, Turf-type Tall Fescue, Buffalo grass, and Alkaligrass-Fults Puccinellia distans. Select cultivars or varieties of grasses that are disease and insect resistant and of good color. Ensure that no one species in the mix is less than 5 percent, or more than 25 percent, of the mixture by weight. Do not select grass species considered noxious or objectionable, such as Quack Grass, Smooth Brome, Orchard Grass, Reed Canary Grass and others.

A. Ensure the seed is legally saleable in Michigan. Ensure the seed product does not contain more than 10 percent inert materials. Ensure the seed source is an MDOT approved certified vender.

B. Adapt the species and varieties of seed to the site conditions, to the site use, and to the soils, moisture and local climate. Site use may include, but is not limited to, detention pond, wildlife habitat, playground, wetlands, forested wetland, rural roadside, urban roadside and highly maintained front yard.

C. Ensure at least two of the species in the mixture proposed to be planted within 15 feet behind the curb or the shoulder are salt tolerant.

3. Mulch. Mulch seeded areas with the appropriate materials for the site conditions to promote germination and growth of seed and to mitigate soil erosion and sedimentation.

4. Herbicides. Comply with all federal, state and local laws. As part of the MDA weed control application, the Contractor is required to make proper notifications and/or postings as per label and MDA requirements for all locations that will be sprayed. Notify the Engineer at least 48 hours prior to any applications being made. Furnish and apply herbicide(s) as

needed. It is the Contractor's responsibility to select the herbicide(s) and the rate at which it is used. Obtain the Engineer's approval of work methods and herbicide(s) selected prior to the application of the herbicide(s). Complete a spray log and submit to the Engineer each day an application is made.

Do not draw water from any waterway (i.e. river, ditch, creek, lake etc.) located on state, county or municipal right-of-way, for mixing with herbicides.

5. Fertilizers. Furnish and apply fertilizer(s) as needed. It is the Contractor's responsibility to select the fertilizer(s) and the rate at which it is used. Phosphorus is allowed for use only at the time of planting and when required by soil conditions. Obtain the Engineer's approval of work methods and fertilizer(s) prior to the application of the fertilizer(s).

6. Water. Furnish and apply water from an approved source at a rate to promote healthy growth.

**c. Construction.** The Contractor is responsible for all work and all construction methods used in completing this work. Implementation of any part of the standard specifications or standard plans by the Contractor does not relieve the Contractor of responsibility for acceptability of the construction methods or for the quality of the work.

1. Inspection of the Work. The Contractor is responsible for all inspection of turf establishment work.

Use a Contractor's Daily Report, approved by the Engineer, to report inspections made and to document turf establishment work performed on this project. Complete and submit a Contractor's Daily Report to the Engineer when any work performed under this special provision is in progress.

Include all necessary materials documentation including tests slips, certifications, etc. with the associated Contractor's Daily Report.

The Engineer will determine the acceptability of the Contractor's Daily Report in terms of their completeness and accuracy. The Engineer reserves the right to verify all submitted measurements and computations. Failure by the Contractor to submit acceptable and timely reports to the Engineer may result in withholding of progress pay estimates on turf-related items until such time as reports are submitted and deemed acceptable.

The Engineer reserves the right to inspect the project for any reason in accordance with subsection 104.01 of the Standard Specifications for Construction, including the fulfillment of other inspection requirements such as Soil Erosion and Sedimentation Control, NPDES, etc. Inspections made by the Engineer do not relieve the Contractor of the responsibility for inspections required by this special provision or the Contractor's responsibilities for erosion control and turf establishment.

2. Erosion Control. Control erosion at all times according to section 208 of the Standard Specifications for Construction. Control of soil erosion is the responsibility of the Contractor. However, sedimentation controls must be placed as indicated on the plans or as directed by the Engineer. Continuously monitor the site for needed erosion repair from any cause as addressed in the contract. Return all eroded areas to original grade as detailed in the contract.

Take immediate corrective action if sedimentation occurs in drainage structures or any watercourse or water containment area and stabilize all disturbed areas contributing to this sedimentation within 24 hours after the erosion occurrence. Remove sediment deposited as a result of the Contractor's inability to control the soil erosion at the Contractor's expense.

Reimburse the Department for any costs levied against the Department, such as fines, environmental costs, costs for remedies required, or any other costs as a result of the Contractor's failure to comply with this special provision and with federal, state and local laws.

3. Erosion Repair. The Contractor is responsible for all repairs and liable for all consequences (legal, monetary or other) associated with erosion or sedimentation damage to finished or unfinished work.

Report all erosion occurrences and the repairs made by the Contractor to the Engineer in the format and at the frequency required by the Engineer. Repair any erosion, displacement or disturbance to ongoing or completed work by any cause at no additional cost to the contract unless otherwise noted herein.

The Contractor is responsible and liable for all traffic control and safety measures required to repair and protect damaged turf areas. Repair any eroded area that may affect the support of the roadbed or safety of the public within 24 hours of the erosion occurrence.

Place protective devices such as barriers, directional signs/signals, temporary fence, or any other safety measures immediately after any erosion damage occurs that has the potential of endangering the public. In these instances, provide the Engineer with a written summary of the immediate action taken describing the repairs made and the safety measures taken, within 24 hours of the occurrence of the damage.

4. Mowing and Weeding. Maintain turf to a visually appealing level, and not more than 8 inches in height at any time, prior to acceptance. Weeds must be controlled to less than 10 percent of the turf establishment area at all times during construction.

5. Final Acceptance and Supplemental Performance Bond.

A. Final Acceptance Parameters. Ensure before final acceptance of the turf establishment work, all of the following minimum parameters are met throughout all exposed areas of the project designated on the plans or identified by the Engineer as turf establishment areas: there must be no exposed bare soil and the turf must be fully germinated, erosion free, weed free, disease free, dark green in color and in a vigorous growing condition.

The Engineer will notify the Contractor of the dates and times of all acceptance inspections. The Contractor may accompany the Engineer during these inspections. If the Contractor does not agree with the decision made by the Engineer, the Contractor may request an inspection by a mutually agreed upon third party (Michigan State University Extension service or other). A joint inspection, to include the Engineer, the Contractor, and the third party, will be scheduled by the Engineer. Pay all expert fees and expenses charged by the third party.

B. Supplemental Performance Bond. In the event that all contract items of work are

completed, including the placement of all turf establishment items of work, and the final acceptance of the project is delayed because the final acceptance parameters for the turf establishment work have not been fully met; the Contractor may propose to the Engineer the use of a supplemental performance bond.

The bond serves to secure the successful completion of turf establishment work and fulfillment of all final acceptance parameters for the turf establishment work. Ensure the supplemental performance bond, in all respects, is satisfactory and acceptable to the Department and executed by a surety company authorized to do business with the State of Michigan.

Ensure the bond is in an amount equal to 50 percent of the turf establishment work items covered by this special provision. Ensure the bond remains in place for two growing seasons. At the discretion of the Engineer, the bond may be reduced on a prorated basis as portions of the areas designated for turf establishment on the project meet the final acceptance parameters.

Prior to commencement of any work necessary to meet the acceptance parameters during the bonded period, the Contractor must apply for a permit to work within MDOT right-of-way using Form 2205. The permit fee and an individual permit performance bond will not be required. The permit insurance requirements, however, will be required.

**APPENDIX B**

**REPORTS**

# Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

## Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply this report for any purpose or project except the one originally contemplated.*

## Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

## Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an

assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

## Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

## Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

## A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

## A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

### **Do Not Redraw the Engineer's Logs**

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

### **Give Constructors a Complete Report and Guidance**

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

### **Read Responsibility Provisions Closely**

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help

others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

### **Environmental Concerns Are Not Covered**

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

### **Obtain Professional Assistance To Deal with Mold**

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold-prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical-engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention.* Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.

### **Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance**

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your GBC-Member geotechnical engineer for more information.



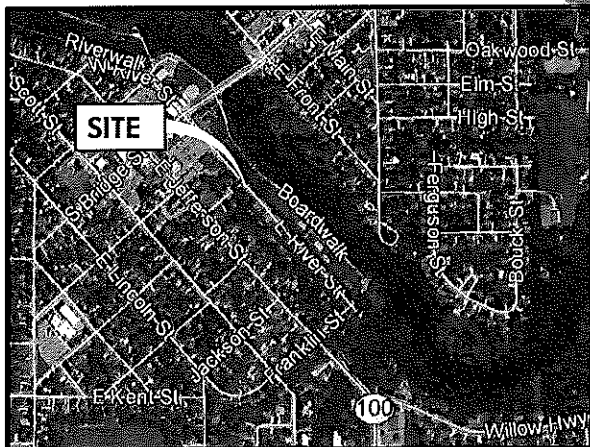
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**LEGEND**

 APPROXIMATE BORING LOCATION



**LOCATION MAP**

NOT TO SCALE



NOTE:  
DRAWING INFORMATION TAKEN  
FROM GOOGLE EARTH PRO WITH  
IMAGE DATE 7-14-2015.



GRAPHIC SCALE: 1" = 150'

No.	Revision Date	Date	4-20-16
		Drawn By	JAB
		Designed By	BLE
		Scale	1" = 150'
		Project	074031.00

**BORING LOCATION PLAN  
EAST RIVER STREET RECONSTRUCTION  
GRAND LEDGE, MICHIGAN**



www.sme-usa.com

**Figure No. 1**

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART		
<b>COARSE-GRAINED SOIL</b> (more than 50% of material is larger than No. 200 sieve size.)		
Clean Gravel (Less than 5% fines)		
<b>GRAVEL</b> More than 50% of coarse fraction larger than No. 4 sieve size		GW Well-graded gravel; gravel-sand mixtures, little or no fines
		GP Poorly-graded gravel; gravel-sand mixtures, little or no fines
Gravel with fines (More than 12% fines)		
		GM Silty gravel; gravel-sand-silt mixtures
		GC Clayey gravel; gravel-sand-clay mixtures
Clean Sand (Less than 5% fines)		
<b>SAND</b> 50% or more of coarse fraction smaller than No. 4 sieve size		SW Well-graded sand; sand-gravel mixtures, little or no fines
		SP Poorly graded sand; sand-gravel mixtures, little or no fines
Sand with fines (More than 12% fines)		
		SM Silty sand; sand-silt-gravel mixtures
		SC Clayey sand; sand-clay-gravel mixtures
<b>FINE-GRAINED SOIL</b> (50% or more of material is smaller than No. 200 sieve size)		
<b>SILT AND CLAY</b> Liquid limit less than 50%		ML Inorganic silt; sandy silt or gravelly silt with slight plasticity
		CL Inorganic clay of low plasticity; lean clay, sandy clay, gravelly clay
		OL Organic silt and organic clay of low plasticity
<b>SILT AND CLAY</b> Liquid limit 50% or greater		MH Inorganic silt of high plasticity, elastic silt
		CH Inorganic clay of high plasticity, fat clay
		OH Organic silt and organic clay of high plasticity
<b>HIGHLY ORGANIC SOIL</b>		PT Peat and other highly organic soil

OTHER MATERIAL SYMBOLS		

LABORATORY CLASSIFICATION CRITERIA	
GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3
GP	Not meeting all gradation requirements for GW
GM	Atterberg limits below "A" line or PI less than 4
GC	Atterberg limits above "A" line with PI greater than 7
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3
SP	Not meeting all gradation requirements for SW
SM	Atterberg limits below "A" line or PI less than 4
SC	Atterberg limits above "A" line with PI greater than 7

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent.....GW, GP, SW, SP  
More than 12 percent.....GM, GC, SM, SC  
5 to 12 percent.....Cases requiring dual symbols

- SP-SM or SW-SM (SAND with Silt or SAND with Silt and Gravel)
- SP-SC or SW-SC (SAND with Clay or SAND with Clay and Gravel)
- GP-GM or GW-GM (GRAVEL with Silt or GRAVEL with Silt and Sand)
- GP-GC or GW-GC (GRAVEL with Clay or GRAVEL with Clay and Sand)

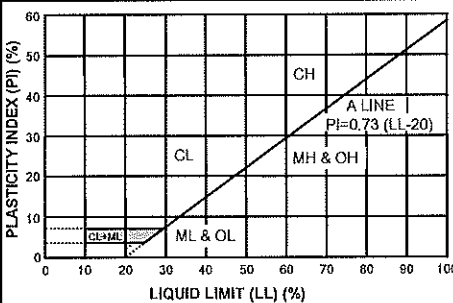
If the fines are CL-ML:

- SC-SM (SILTY CLAYEY SAND or SILTY CLAYEY SAND with Gravel)
- SM-SC (CLAYEY SILTY SAND or CLAYEY SILTY SAND with Gravel)
- GC-GM (SILTY CLAYEY GRAVEL or SILTY CLAYEY GRAVEL with Sand)
- GM-GC (CLAYEY SILTY GRAVEL or CLAYEY SILTY GRAVEL with Sand)

### PARTICLE SIZES

Boulders	- Greater than 12 inches
Cobbles	- 3 inches to 12 inches
Gravel- Coarse	- 3/4 inches to 3 inches
Gravel- Fine	- No. 4 to 3/4 inches
Sand- Coarse	- No. 10 to No. 4
Sand- Medium	- No. 40 to No. 10
Sand- Fine	- No. 200 to No. 40
Silt and Clay	- Less than (0.0074 mm)

### PLASTICITY CHART



VISUAL MANUAL PROCEDURE
When laboratory tests are not performed to confirm the classification of soils exhibiting borderline classifications, the two possible classifications would be separated with a slash, as follows: For soils where it is difficult to distinguish if it is a coarse or fine-grained soil: • SC/CL (CLAYEY SAND to SANDY LEAN CLAY) • SM/ML (SILTY SAND to SANDY SILT) • GC/CL (CLAYEY GRAVEL to GRAVELLY LEAN CLAY) • GM/ML (SILTY GRAVEL to GRAVELLY SILT) For soils where it is difficult to distinguish if it is sand or gravel, poorly or well-graded sand or gravel; silt or clay; or plastic or non-plastic silt or clay: • SP/GP or SW/GW (SAND with Gravel to GRAVEL with Sand) • SC/GC (CLAYEY SAND with Gravel to CLAYEY GRAVEL with Sand) • SM/GM (SILTY SAND with Gravel to SILTY GRAVEL with Sand) • SW/SP (SAND or SAND with Gravel) • GP/GW (GRAVEL or GRAVEL with Sand) • SC/SM (CLAYEY to SILTY SAND) • GM/GC (SILTY to CLAYEY GRAVEL) • CL/ML (SILTY CLAY) • ML/CL (CLAYEY SILT) • CH/MH (FAT CLAY to ELASTIC SILT) • CL/CH (LEAN to FAT CLAY) • MH/ML (ELASTIC SILT to SILT) • OL/OH (ORGANIC SILT or ORGANIC CLAY)

### DRILLING AND SAMPLING ABBREVIATIONS

2ST	- Shelby Tube - 2" O.D.
3ST	- Shelby Tube - 3" O.D.
AS	- Auger Sample
GS	- Grab Sample
LS	- Liner Sample
NR	- No Recovery
PM	- Pressure Meter
RC	- Rock Core diamond bit. NX size, except where noted
SB	- Split Barrel Sample 1-3/8" I.D., 2" O.D., except where noted
VS	- Vane Shear
WS	- Wash Sample

### OTHER ABBREVIATIONS

WOH	- Weight of Hammer
WOR	- Weight of Rods
SP	- Soil Probe
PID	- Photo Ionization Device
FID	- Flame Ionization Device

### DEPOSITIONAL FEATURES

Parting	- as much as 1/16 inch thick
Seam	- 1/16 inch to 1/2 inch thick
Layer	- 1/2 inch to 12 inches thick
Stratum	- greater than 12 inches thick
Pocket	- deposit of limited lateral extent
Lens	- lenticular deposit
Hardpan/Till	- an unstratified, consolidated or cemented mixture of clay, silt, sand and/or gravel, the size/shape of the constituents vary widely
Lacustrine	- soil deposited by lake water
Mottled	- soil irregularly marked with spots of different colors that vary in number and size
Varved	- alternating partings or seams of silt and/or clay
Occasional	- one or less per foot of thickness
Frequent	- more than one per foot of thickness
Interbedded	- strata of soil or beds of rock lying between or alternating with other strata of a different nature

### CLASSIFICATION TERMINOLOGY AND CORRELATIONS

#### Cohesionless Soils

Relative Density	N-Value (Blows per foot)
Very Loose	0 to 4
Loose	4 to 10
Medium Dense	10 to 30
Dense	30 to 50
Very Dense	50 to 80
Extremely Dense	Over 80

#### Cohesive Soils

Consistency	N-Value (Blows per foot)	Undrained Shear Strength (kips/ft <sup>2</sup> )
Very Soft	0 - 2	0.25 or less
Soft	2 - 4	0.25 to 0.50
Medium	4 - 8	0.50 to 1.0
Stiff	8 - 15	1.0 to 2.0
Very Stiff	15 - 30	2.0 to 4.0
Hard	> 30	4.0 or greater

Standard Penetration 'N-Value' = Blows per foot of a 140-pound hammer falling 30 inches on a 2-inch O.D. split barrel sampler, except where noted.



# BORING B1

PAGE 1 OF 1

PROJECT NAME: East River and Franklin - Borings

PROJECT NUMBER: 074031.00

CLIENT: Eng., Inc.

PROJECT LOCATION: Grand Ledge, Michigan

DATE STARTED: 4/11/16

COMPLETED: 4/11/16

BORING METHOD: Direct Push

FIELD REPRESENTATIVE: BJM

EQUIPMENT: 274

LOGGED BY: TSN

CHECKED BY: MSJ

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	BLOWS PER SIX INCHES	DYNAMIC CONE PENETROMETER (DCP) -- O	DRY DENSITY (pcf) -- ■	MOISTURE & ATTERBERG LIMITS (%)	<input type="checkbox"/> HAND PENE. <input checked="" type="checkbox"/> TORVANE SHEAR <input type="checkbox"/> UNC.COMP. <input type="checkbox"/> VANE SHEAR (PK) <input type="checkbox"/> VANE SHEAR (REM) <input type="checkbox"/> TRIAXIAL (UU) SHEAR STRENGTH (KSF)	REMARKS
						90 100 110 120			
0.3		3 inches of ASPHALT CONCRETE							
1.1		FILL- 10 inches of Fine to Coarse SILTY SAND with Gravel- Brown-Moist (SM)							
2.5		FILL- Fine to Medium SAND- Brown-Moist (SP)	LS1						
4.0		FILL- Fine CLAYEY SAND- Dark Brown to Black- Moist (SC)		50/1"	50+				Driller reported cobbles at 3 feet to 6 feet
5.0		Fine to Medium SAND with Silt- Frequent Sandstone Pieces- Brown-Moist- Very Dense (SP-SM)	LS2						
7.5		END OF BORING AT 7.5 FEET.	LS3	50/1"	50+				
10									
15									
20									

**GROUNDWATER & BACKFILL INFORMATION**

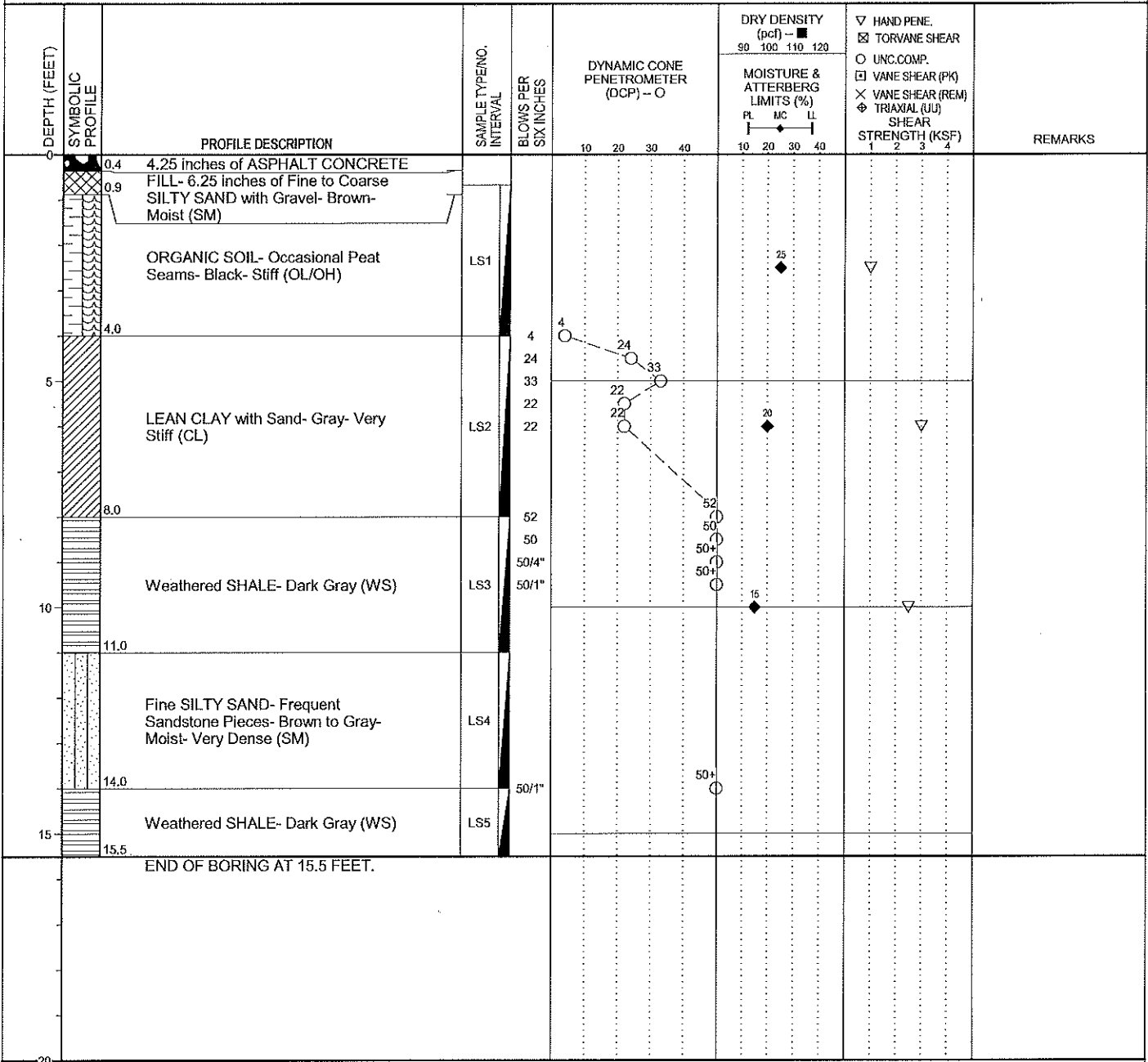
GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Sand & Gravel capped with Cold Patch

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.  
 2. Army Corps of Engineers DCP test performed at this location. Refer to DCP data sheet for this boring.  
 3. Driller reported refusal at 7.5 feet.



PROJECT NAME: East River and Franklin - Borings PROJECT NUMBER: 074031.00  
 CLIENT: Eng., Inc. PROJECT LOCATION: Grand Ledge, Michigan  
 DATE STARTED: 4/11/16 COMPLETED: 4/11/16 BORING METHOD: Direct Push  
 FIELD REPRESENTATIVE: BJM EQUIPMENT: 274 LOGGED BY: TSN CHECKED BY: MSJ



**GROUNDWATER & BACKFILL INFORMATION**  
 GROUNDWATER WAS NOT ENCOUNTERED  
 BACKFILL METHOD: Sand & Gravel capped with Cold Patch

**NOTES:** 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.  
 2. Army Corps of Engineers DCP test performed at this location. Refer to DCP data sheet for this boring.  
 3. Driller reported refusal at 15.5 feet.



**PROJECT NAME:** East River and Franklin - Borings  
**CLIENT:** Eng., Inc.

**PROJECT NUMBER:** 074031.00  
**PROJECT LOCATION:** Grand Ledge, Michigan

**DATE STARTED:** 4/11/16      **COMPLETED:** 4/11/16  
**FIELD REPRESENTATIVE:** BJM      **EQUIPMENT:** 274

**BORING METHOD:** Direct Push  
**LOGGED BY:** TSN      **CHECKED BY:** MSJ

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	BLOWS PER SIX INCHES	DYNAMIC CONE PENETROMETER (DCP) - O	DRY DENSITY (pcf) - ■	MOISTURE & ATTERBERG LIMITS (%)				▽ HAND PENE. ⊠ TORVANE SHEAR ○ UNC.COMP. ⊠ VANE SHEAR (PK) × VANE SHEAR (REM) ⊕ TRIAXIAL (UU) SHEAR STRENGTH (KSF)	REMARKS	
						90 100 110 120	PL	MC	LL	1			2
0.1		1.5 inches of ASPHALT CONCRETE											
0.8		FILL- 8.5 inches of Fine to Coarse SAND with Silt and Gravel- Brown-Moist (SP-SM)											
4.0		Sandy LEAN CLAY- Brown- Stiff (CL)	LS1			15							
5.0		Fine SILTY SAND- Brown- Moist-Medium Dense to Loose (SM)	LS2	29 33 22 17	17 22 29 33								
8.0	▽	Fine SAND with Silt- Brown- Wet-Loose to Very Dense (SP-SM)	LS3	6 7 7	6 7 7								
12.0		LEAN CLAY with Sand and Gravel- Brown- Very Stiff (CL)	LS4	50/5"	50/5"	50+							
14.5		LEAN CLAY- Dark Gray- Hard (CL)	LS4	50/3"	50/3"	50+							
16.0		Weathered SHALE- Dark Gray (WS)	LS5			14 11 16							
20.0		END OF BORING AT 20.0 FEET.											

GROUNDWATER & BACKFILL INFORMATION	
	DEPTH (FT)
▽ AT END OF BORING:	8.0
<b>BACKFILL METHOD:</b>	Sand & Gravel capped with Cold Patch

**NOTES:** 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.  
2. Army Corps of Engineers DCP test performed at this location. Refer to DCP data sheet for this boring.



PAVEMENT CORE LOG AND USACE DCP DATA

PROJECT NAME: East River and Franklin Reconstruction  
 PROJECT NO.: 074031.00  
 LOCATION: Grand Ledge, Michigan  
 CLIENT: Eng., Inc.  
 A/E: \_\_\_\_\_  
 DATE: 4/11/16  
 BY: B. Masserant

PROBE/CORE: B1  
 STREET: East River Street  
 LANE: \_\_\_\_\_  
 STATION: \_\_\_\_\_  
 OFFSET: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 GROUND EL: \_\_\_\_\_

PAVEMENT AND SUBSURFACE CONDITIONS

Layer, in.		Layer Thickness, in.	Description	Comment
From	To			
0	3	3	Asphalt	
3	13	10	Aggregate	Refusal at 7.5"

Depth to Groundwater From Ground Surface  
 Upon Completion: \_\_\_\_\_

NOTES:  
 Cobbles at 3 feet to 6 feet. See attached boring logs for subsurface soil conditions.

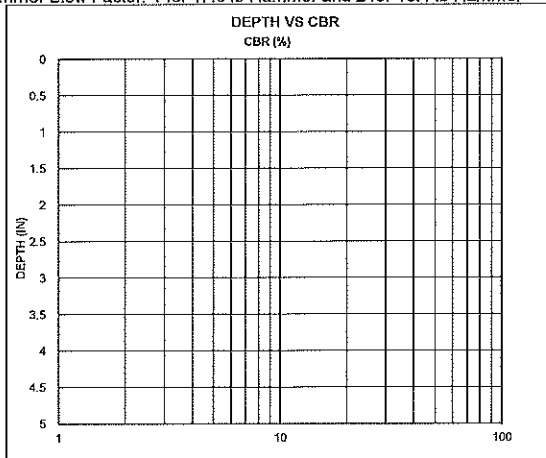
DCP TEST RESULTS

Depth to start of test from ex. ground surface: 4.5 inches

No. of Blows	Pen. (mm)	Blow Set (mm)	Pen./Blow (mm)	Blow Factor	Depth from Surface (inches)	CBR (%)	Comment	Soil Type	Average CBR (%)
0	260	0		1					
10	360	100	10	1	8.4	22.2	Good		
20	445	85	4	1	11.8	57.8	Good		
20	530	85	4	1	15.1	57.8	Good		
20	635	105	5	1	19.3	45.6	Good		
15	745	110	7	1	23.6	31.4	Good		
7	845	100	14	1	27.5	14.9	Good		
15	935	90	6	1	31.1	39.3	Good		
12	1055	120	10	1	35.8	22.2	Good		
6	1140	85	14	1	39.1	15.0	Good		

Hammer Blow Factor: 1 for 17.6 lb Hammer and 2 for 10.1 lb Hammer

\*CBR breaklines are based on blow counts performed prior to sampling. Depths are approximate.



Support Conditions	CBR Range for Aggregate Base Materials (%)	CBR Range for Subgrade Soils (%)
Good	>80	>10
Marginal	60 to 80	5 to 10
Poor	30 to 60	3 to 5
Very Poor	<30	<3

\*\*Core picture shows approximate thickness  
 CORE LOG DCP 1 meter rod (standard).XLS ver. 2/7/14- Clay DCP



PAVEMENT CORE LOG AND USACE DCP DATA

PROJECT NAME: East River and Franklin Reconstruction  
 PROJECT NO.: 074031.00  
 LOCATION: Grand Ledge, Michigan  
 CLIENT: Eng., Inc.  
 A/E: \_\_\_\_\_  
 DATE: 4/11/16  
 BY: B. Masserant

PROBE/CORE: B2  
 STREET: East River Street  
 LANE: \_\_\_\_\_  
 STATION: \_\_\_\_\_  
 OFFSET: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 GROUND EL: \_\_\_\_\_

PAVEMENT AND SUBSURFACE CONDITIONS

Layer, in.		Layer Thickness, in.	Description	Comment
From	To			
0	4.25	4.25	Asphalt	
4.25	10.5	6.25	Aggregate	

Depth to Groundwater From Ground Surface  
 Upon Completion: \_\_\_\_\_

NOTES:  
 See attached boring logs for subsurface soil conditions.

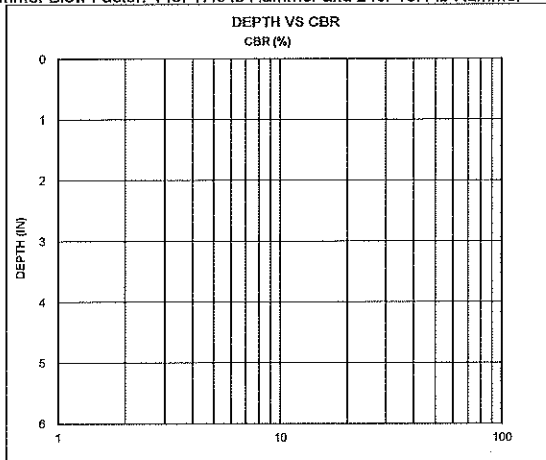
DCP TEST RESULTS

Depth to start of test from ex. ground surface: 5 inches

No. of Blows	Pen. (mm)	Blow Set (mm)	Pen./Blow (mm)	Blow Factor	Depth from Surface (inches)	CBR (%)	Comment	Soil Type	Average CBR (%)
0	250	0		1					
12	365	115	10	1	9.5	23.2	Good		
15	425	60	4	1	11.9	61.8	Good		
15	490	65	4	1	14.4	56.5	Good		
13	580	90	7	1	18.0	33.4	Good		
4	650	70	18	1	20.7	11.8	Good		
4	755	105	26	1	24.9	5.0	Marginal		
3	900	145	48	1	30.6	1.5	Very Poor		
5	1005	105	21	1	34.7	7.8	Marginal		
6	1145	140	23	1	40.2	6.3	Marginal		

Hammer Blow Factor: 1 for 17.6 lb Hammer and 2 for 10.1 lb Hammer

\*CBR breaklines are based on blow counts performed prior to sampling. Depths are approximate.



Support Conditions	CBR Range for Aggregate Base Materials (%)	CBR Range for Subgrade Soils (%)
Good	>80	>10
Marginal	60 to 80	5 to 10
Poor	30 to 60	3 to 5
Very Poor	<30	<3

\*\*Core picture shows approximate thickness  
 CORE LOG DCP 1 meter rod (standard).XLS ver. 2/7/14- Clay DCP



**PAVEMENT CORE LOG AND USACE DCP DATA**

PROJECT NAME: East River and Franklin Reconstruction  
 PROJECT NO.: 074031.00  
 LOCATION: Grand Ledge, Michigan  
 CLIENT: Eng., Inc.  
 A/E: \_\_\_\_\_  
 DATE: 4/11/16  
 BY: B. Masserant

PROBE/CORE: B3  
 STREET: East River Street  
 LANE: \_\_\_\_\_  
 STATION: \_\_\_\_\_  
 OFFSET: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 GROUND EL: \_\_\_\_\_

**PAVEMENT AND SUBSURFACE CONDITIONS**

Layer, in.		Layer Thickness, in.	Description	Comment
From	To			
0	1.5	1.5	Asphalt	
1.5	10	8.5	Aggregate	

Depth to Groundwater From Ground Surface  
 Upon Completion: 8.0

NOTES:  
 See attached boring logs for subsurface soil conditions.

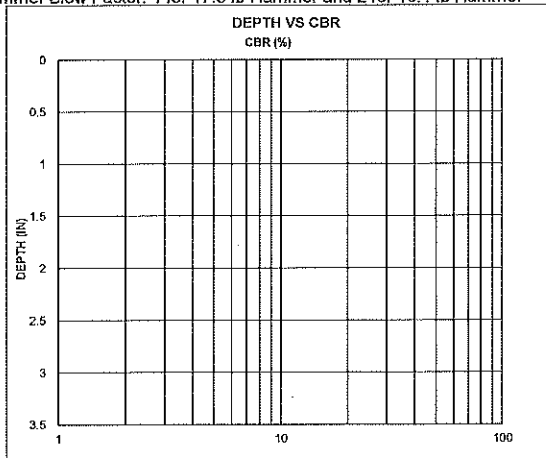
**DCP TEST RESULTS**

Depth to start of test from ex. ground surface: 3 inches

No. of Blows	Pen. (mm)	Blow Set (mm)	Pen./Blow (mm)	Blow Factor	Depth from Surface (inches)	CBR (%)	Comment	Soil Type	Average CBR (%)
0	225	0		1					
15	305	80	5	1	6.1	44.8	Good		
15	405	100	7	1	10.1	34.9	Good		
12	470	65	5	1	12.6	44.0	Good		
10	560	90	9	1	16.2	24.9	Good		
8	655	95	12	1	19.9	18.3	Good		
10	775	120	12	1	24.7	18.1	Good		
5	885	110	22	1	29.0	7.1	Marginal		
3	995	110	37	1	33.3	2.6	Very Poor		
4	1120	125	31	1	38.2	3.5	Poor		

Hammer Blow Factor: 1 for 17.6 lb Hammer and 2 for 10.1 lb Hammer

\*CBR breaklines are based on blow counts performed prior to sampling. Depths are approximate.



Support Conditions	CBR Range for Aggregate Base Materials (%)	CBR Range for Subgrade Soils (%)
Good	>80	>10
Marginal	60 to 80	5 to 10
Poor	30 to 60	3 to 5
Very Poor	<30	<3

\*\*Core picture shows approximate thickness  
 CORE LOG DCP 1 meter rod (standard).XLS ver. 2/7/14- Clay DCP



## Observation Report

**Project No.:** 074031.00  
**Report No.:** OBS:16-6149-01

<b>Client:</b> Eng., Inc.	<b>cc:</b>	This is a DRAFT report. The data presented is for informational purposes only.
<b>Project:</b> East River and Franklin - Borings		
East River and Franklin Street Grand Ledge MI 48837		
<b>Contractor:</b>		<b>Reviewed By:</b>

**Date:** Apr 29, 2016 **Reported By:** Megan S. Jacobs, PE  
**Type of Service:** Subgrade Evaluation

### Summary of Observations

SME was on-site today to perform hand auger and muck probes in an attempt to determine the depth to bedrock in the area directly north of boring B1. A tee handled box auger and a muck probe were used to evaluate the soil conditions at the locations described below.

MP/HA1: Planned to be 40' NE of north edge of sidewalk. The location was approximately 2.5' NE of boring B2 (see attached boring log and location diagram).

MP/HA2: Approximately 80' NE of north edge of sidewalk and about 6.5' below existing top of pavement.  
 0 to 4" = Sandy Topsoil- Dark Brown  
 4" to 7.5' = FILL- Fine to Medium CLAYEY Sand- Frequent Debris- Brown and Dark Brown  
 7.5' = Hand auger and muck probe refusal at 7.5' below existing ground surface elevation

MP/HA3: 120' NE of north edge of sidewalk and about 15' below top of existing pavement.  
 0 to 4" = Sandy Topsoil- Dark Brown  
 4" to 3'10" = FILL- Fine to Medium CLAYEY Sand- Frequent Clay Pockets and Debris- Dark Brown and Brown  
 3'10" = Hand auger refusal  
 8' = Muck probe refusal

MP/HA4: 160' NE of north edge of sidewalk and about 18' below top of existing pavement (near toe of slope).  
 0 to 10" = Clayey Topsoil- Black  
 10" to 4' = FILL- Fine to Medium CLAYEY Sand- Dark Brown and Brown  
 4' = Hand auger refusal  
 6'4" = Muck probe refusal  
 Auger hole collapsed 3' below existing GSE. Groundwater was encountered 2' below GSE during and after augering.

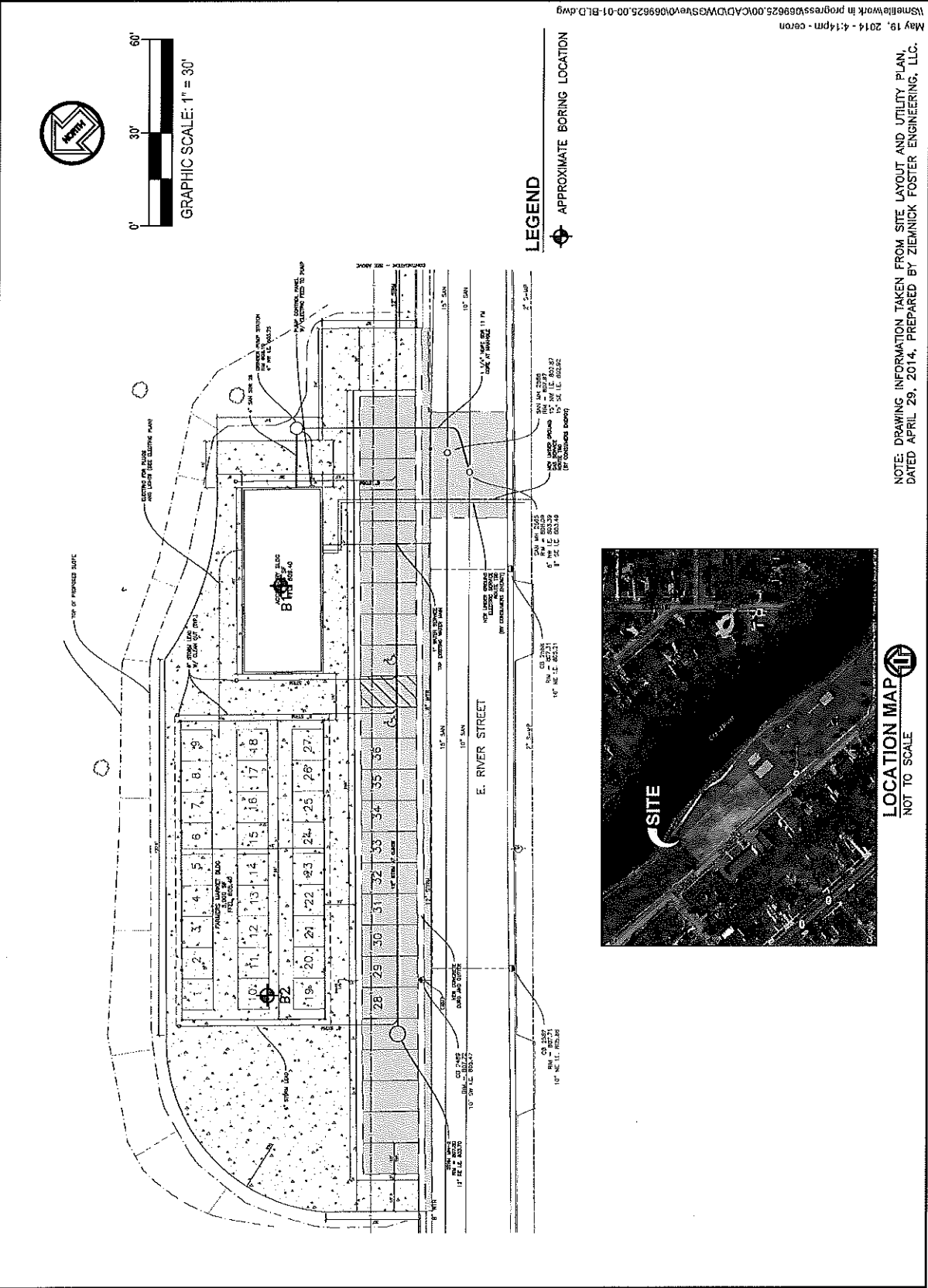
No.	Revision Date

**BORING LOCATION DIAGRAM  
FARMERS MARKET  
GRAND LEDGE, MICHIGAN**

Date	05/14/2014
Drawn By	HJC
Designed By	BDM
Scale	1" = 30'
Project	089625.00



Figure No. 1





PROJECT NAME: Farmers Market

PROJECT NUMBER: 069625.00

CLIENT: Ziemnick Foster Engineering, LLC

PROJECT LOCATION: Grand Ledge, Michigan

DATE STARTED: 4/29/14

COMPLETED: 4/29/14

BORING METHOD: Solid-stem Augers

DRILLER: RM

RIG NO.: ATV-CME55

LOGGED BY: MSJ

CHECKED BY: BDM

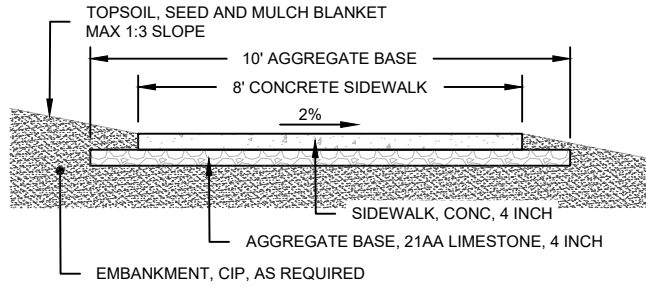
ELEVATION (FEET)	DEPTH (FEET)	SYMBOLIC PROFILE	SURFACE ELEVATION: 806± FT PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	BLOWS PER SIX INCHES	N-VALUE - O	DRY DENSITY (pcf) - ■	MOISTURE & ATTERBERG LIMITS (%)	▽ HAND PENE. ⊠ TORVANE SHEAR ○ UNC.COMP. □ VANE SHEAR (FK) × VANE SHEAR (REM) ⊕ TRIAXIAL (UU) SHEAR STRENGTH (KSF)	REMARKS
								90 100 110 120			
	0.3		3 Inches of TOPSOIL								
805	3.0		FILL- Fine CLAYEY SAND- Dark Brown and Brown- Moist- Medium Dense (SC)	SB1	18	3 5 8	13	17			
	6.0		FILL- Sandy LEAN CLAY with Gravel- Frequent Topsoil Layers and Seams- Brown, Dark Brown and Black- Stiff (CL)	SB2	18	3 3 3	6	21		▽	
800	6.0		FILL- Fine CLAYEY SAND with Gravel- Trace Slag and Sandstone Pieces- Occasional to Frequent Topsoil Layers Below 8.5 Feet- Dark Brown- Moist- Loose to Medium Dense (SC)	SB3	18	12 2 3	5	15			
	11.5		FILL- Fine CLAYEY SAND with Gravel- Trace Slag and Sandstone Pieces- Occasional to Frequent Topsoil Layers Below 8.5 Feet- Dark Brown- Moist- Loose to Medium Dense (SC)	SB4	18	2 4 8	12	15			
795	11.5		LEAN CLAY- Brown to Gray- Hard (CL)	SB5	18	8 10 10	20	18		4.5+ ▽	
790	21.5		LEAN CLAY- Brown to Gray- Hard (CL)	SB6	18	8 20 18	38	19		4.5+ ▽	
785	21.5		Weathered Shale- Gray- Medium Hard	SB7	18	31 44 72		116			
780	25.0		END OF BORING AT 25.0 FEET.								

LOI test indicates an organic content of 2.8 percent on a topsoil layer from sample SB3.  
LOI test indicates an organic content of 3.6 percent on a topsoil layer from sample SB4.

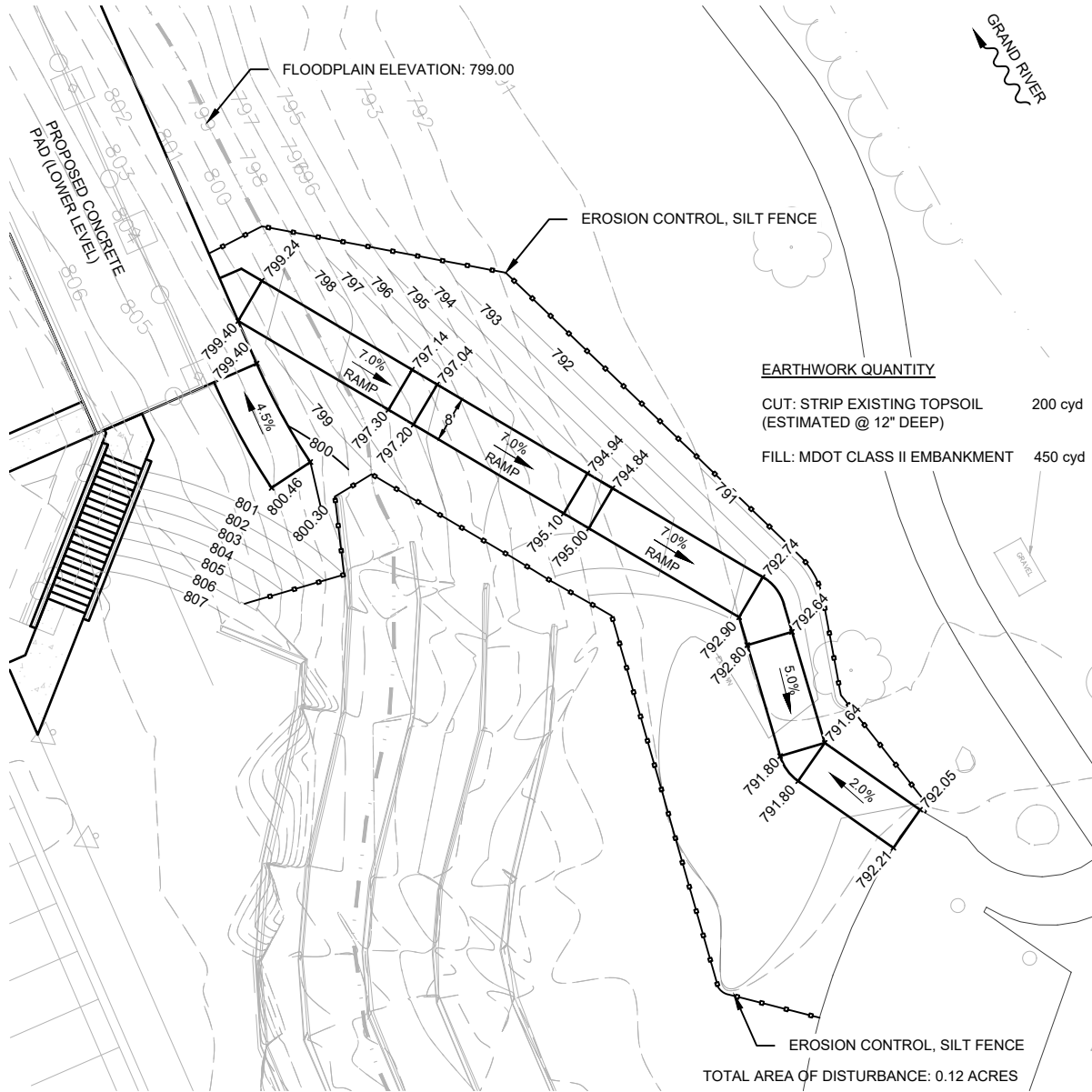
<p><b>GROUNDWATER &amp; BACKFILL INFORMATION</b></p> <p>GROUNDWATER WAS NOT ENCOUNTERED</p> <p>BACKFILL METHOD: Auger Cuttings</p>	<p>NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.</p>
--	--

**ESTIMATED QUANTITIES - THIS SHEET**

EARTHWORK CUT	200 CUBIC YARD
EMBANKMENT, LM	450 CUBIC YARD
SILT FENCE	350 FOOT
AGGREGATE BASE, 4 INCH	200 SQUARE YARD
SIDEWALK, CONC, 4 INCH	1400 SQUARE FOOT
TOPSOIL SURFACE, 3 INCH	350 SQUARE YARD
SEEDING	350 SQUARE YARD
MULCH BLANKET	350 SQUARE YARD
WATER	35 UNITS



**CROSS SECTION**

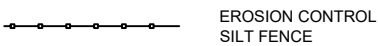


**EARTHWORK QUANTITY**

CUT: STRIP EXISTING TOPSOIL (ESTIMATED @ 12" DEEP)	200 cyd
FILL: MDOT CLASS II EMBANKMENT	450 cyd

EROSION CONTROL, SILT FENCE  
TOTAL AREA OF DISTURBANCE: 0.12 ACRES

**LEGEND**



**BID ALTERNATE #4  
JAYCEE PARK SIDEWALK EXTENSION**



H:\20\20300\20356\01\_Jaycee Park Observation Platform\Drawing Files\Jaycee Park Platform Sidewalk - Today.dwg

**giffels webster**  
Engineers Surveyors Planners  
Landscape Architects  
Environmental Specialists

1025 E. Maple Road  
Suite 100  
Birmingham, MI 48009  
p (248) 852-3100  
f (248) 852-6372  
www.giffelswebster.com

Executive:	J.R.W.
Manager:	J.R.W.
Designer:	J.R.W.
Quality Control:	J.R.W.

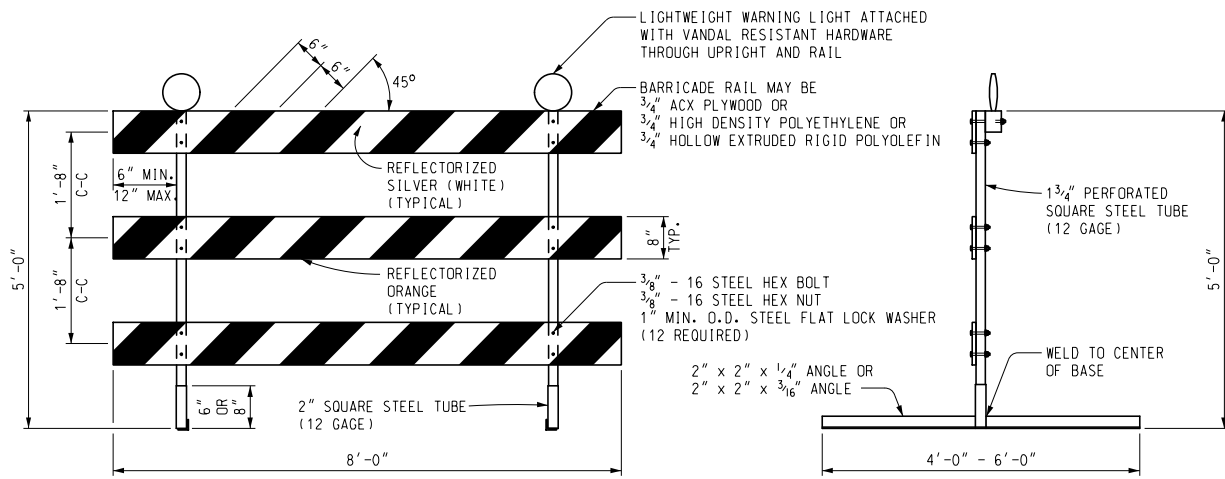
Developed For:

**CITY OF GRAND LEDGE**  
310 GREENWOOD STREET  
GRAND LEDGE, MI 48837  
(517) 627-2149

DATE:	ISSUE:

Date:	08.18.2025
Scale:	1" = 30'
Sheet:	1 OF 1
Project:	20356.01

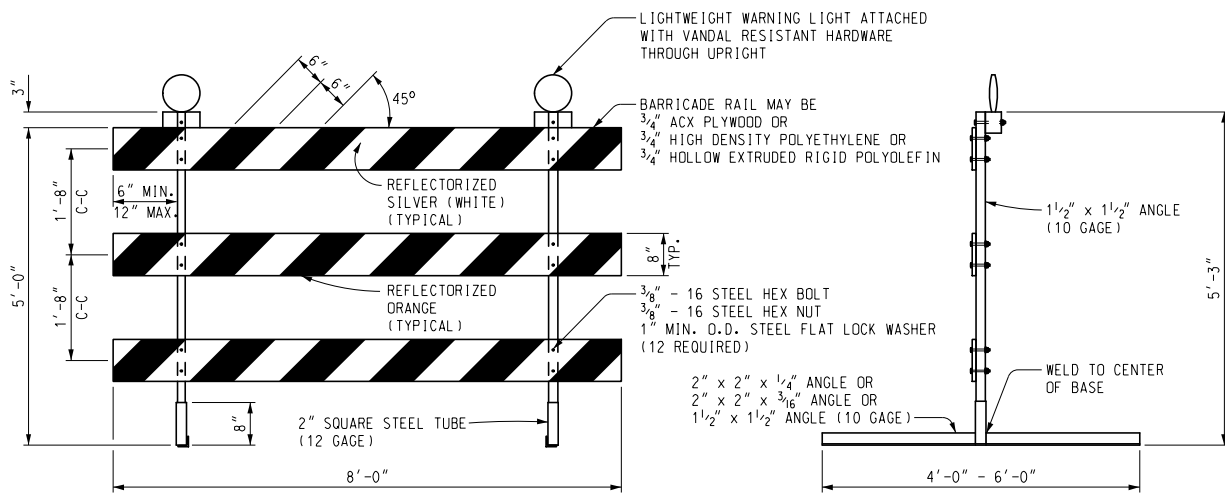
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FRONT ELEVATION

SIDE VIEW

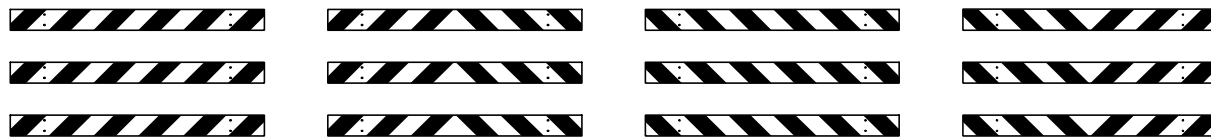
**PERFORATED SQUARE STEEL TUBE OPTION**



FRONT ELEVATION

SIDE VIEW

**ANGLE IRON OPTION**



LEFT DIRECTIONAL

BI-DIRECTIONAL

RIGHT DIRECTIONAL

CLOSURES

**BARRICADE RAIL SHEETING OPTIONS  
TYPE III BARRICADES**

Other Type III Barricades meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at [http://safety.fhwa.dot.gov/roadway\\_dept/road\\_hardware/wzd.htm](http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm)

**MDOT**  
Michigan Department of Transportation

PREPARED BY  
OPERATIONS  
FIELD SERVICES

DRAWN BY: ECH

CHECKED BY: MWB

DEPARTMENT DIRECTOR  
Paul C. Ajegba

APPROVED BY: \_\_\_\_\_  
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: \_\_\_\_\_  
(SPECIAL DETAIL)  
DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION  
BUREAU OF FIELD SERVICES SPECIAL DETAIL FOR

Temporary  
Traffic Control Devices

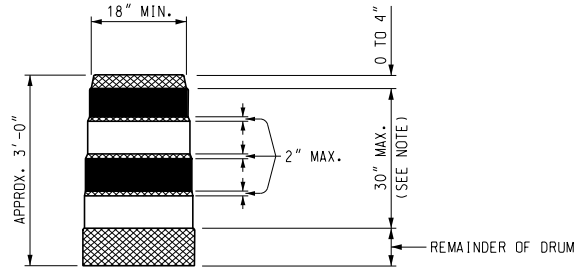
F.H.W.A. APPROVAL \_\_\_\_\_

6/16/22  
PLAN DATE

WZD-125-E

SHEET  
1 OF 3





- REFLECTORIZED ORANGE
- REFLECTORIZED WHITE
- NON REFLECTORIZED ORANGE

NOTE:  
 DRUMS SHALL HAVE AT LEAST 4 HORIZONTAL REFLECTORIZED STRIPES (2 ORANGE AND 2 WHITE) OF 6" UNIFORM WIDTH, ALTERNATING IN COLOR WITH THE TOPMOST REFLECTORIZED STRIPE BEING ORANGE. NON REFLECTORIZED SPACES BETWEEN THE HORIZONTAL REFLECTORIZED ORANGE AND WHITE STRIPES SHALL BE ORANGE IN COLOR AND EQUAL IN WIDTH.

### PLASTIC DRUM

NOTES:

2" PERFORATED SQUARE STEEL TUBES MAY BE USED TO FABRICATE THE HORIZONTAL BASE OF THE TYPE III BARRICADE.

WARNING LIGHTS SHALL BE PLACED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ALL OTHER PROVISIONS IN THE CONTRACT ON TYPE III BARRICADES.

SEE ROAD STANDARD PLANS R-113-SERIES FOR TEMPORARY CROSSOVERS FOR DIVIDED ROADWAY, AND R-126-SERIES FOR TYPICAL LOCATION AND SPACING OF PLASTIC DRUMS FOR PLACEMENT OF TEMPORARY CONCRETE BARRIER.

SIGNS, BARRICADES, AND PLASTIC DRUMS SHALL BE FACED WITH PRESSURE-SENSITIVE REFLECTIVE SHEETING ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SANDBAGS SHALL BE USED WHEN SUPPLEMENTAL WEIGHTS ARE REQUIRED TO ACHIEVE STABILITY OF THE BARRICADE. THE SANDBAGS SHALL BE PLACED SO THEY WILL NOT COVER OR OBSTRUCT ANY REFLECTIVE PORTION OF THE TRAFFIC CONTROL DEVICE.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF FIELD SERVICES SPECIAL DETAIL	(SPECIAL DETAIL) F.H.W.A. APPROVAL	6/16/22 PLAN DATE	WZD-125-E	SHEET 3 OF 3
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NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.